REPORT RESUMES

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DEMONSTRATION OF DIFFERENTIAL PROGRAMMING IN ENRICHMENT, ACCELERATION, COUNSELING, AND SPECIAL CLASSES FOR GIFTED PUPILS IN GRADES 1-9. FINAL REPORT.

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CALIFORNIA PROJECT TALENT WAS A 3 1/2-YEAR PROJECT WHICH DEMONSTRATED FOUR TYPES OF PROGRAMS FOR GIFTED CHILDREN AND YOUTH. THE ENRICHMENT DEMONSTRATION ANALYZED THE NEEDS FOR INSERVICE TRAINING OF TEACHERS AND DEVELOPED APPROPRIATE WORKSHOPS AND ALSO INVENTED, FIELD TESTED, AND DISSEMINATED SPECIAL PUPIL UNITS IN (1) SCIENTIFIC DISCOVERY, METHODOLOGY, AND INVESTIGATION THROUGH A STUDY OF GRAPHIC REPRESENTATION OF STATISTICAL INFORMATION USING THE BLOOM TAXONOMY, (2) CREATIVE EXPRESSION THROUGH A STUDY OF THE LITERARY ELEMENT OF CHARACTERIZATION USING GUILFORD'S STRUCTURE OF INTELLECT MODEL, AND (3) CRITICAL APPRECIATION THROUGH A STUDY OF THE FUNDAMENTAL FORMS OF MUSIC USING BRUNER'S PROCESS OF EDUCATION. THE ACCELERATION DEMONSTRATION INVOLVED INDIVIDUAL PLACEMENT PROCEDURES AND ACCELERATED PUPILS FROM GRADES 2 TO 4 BY USING A SPECIAL SUMMER SESSION AND BY EMPLOYING EXTENSIVE CASE STUDIES, COUNSELING, AND TUTORING. THE COUNSELING-INSTRUCTIONAL DEMONSTRATION SHOWED INTERRELATED GOALS, PROCESSES, AND CONTENTS OF ENGLISH, SOCIAL SCIENCES, GUIDANCE, AND SMALL GROUP COUNSELING DESIGNED TO IMPROVE COMMUNICATION SKILLS, ENCOURAGE DEVELOPMENT OF VALUES AND PHILOSOPHY OF LIFE, AND PROMOTE MORE EFFECTIVE LEARNING IN SOCIAL SCIENCES AND IN ENGLISH IN GRADES 7 TO 9. THE SPECIAL CLASS DEMONSTRATION SHOWED THE UNIQUE VALUE OF THE ALL DAY, FULL WEEK SPECIAL CLASS SETTING IN IMPROVING PROBLEM SOLVING, THE ABILITY TO APPLY FACTS AND PRINCIPLES, AND INSIGHT INTO THE NATURE OF LEARNING. OVERALL, (1) FOUR NEW PROGRAMS WERE INVENTED, ADOPTED, DEMONSTRATED, AND DISSEMINATED, (2) RELATED CONSULTANT, TEACHER, AND COUNSELOR ROLES WERE DESCRIBED, (3) PRODUCTS PRODUCED INCLUDED A FILM SERIES, FILMSTRIP, AND PROGRAM GUIDELINES, AND (4) GIFTED CHILD PROGRAMS WERE PROMOTED, ENRICHED, AND EXPANDED. A REFERENCE LIST CITES 62 ITEMS. APPENDIXES PROVIDE PROJECT REPORTS AND CASE STUDIES, LIST PROJECT DEVELOPED FILMS AND GUIDELINES, AND PRESENT RESEARCH RELATED MATERIALS. (AA)

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DEMONSTRATION OF DIFFERENTIAL PROGRAMMING IN ENRICHMENT, ACCELERATION, COUNSELING, AND SPECIAL CLASSES FOR GIFTED PUPILS IN GRADES 1-9

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DEMONSTRATION OF DIFFERENTIAL PROGRAMMING IN ENRICHMENT, ACCELERATION, COUNSELING, AND SPECIAL CLASSES FOR GIFTED PUPILS IN GRADES 1-9

Project No. D 072
Contract No. OE-10-109

Paul D. Plowman and Joseph P. Rice
Co-directors

March 31, 1967

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California State Department of Education

Sacramento, California

U.S. DEPARTMENT OF HEALTH, EDUCATION & WELFARE
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CONTENTS

Page

Introduction 1

I. Enrichment Demonstration: 4

Teacher Training and Course Content 4

A. Program Structure 4

1. Definition 5
2. Primacy of Enrichment Prototype 6
3. Objectives and Scope 9

B. Methods: Program Design and Operation 15

1. General Program Design 16
2. Teacher Training 19
3. Curriculum Instruction 22
4. Methods of Program Dissemination 28

C. Results: Findings and Accomplishments 34

1. Survey of Products 34
2. Workshops and Dissemination 37
3. General Professional Outcomes 41

D. Selected Discussion of Findings 44

1. Continued Use of Products 44
2. Continued Use of Workshops and Consultant Services 45
3. Theoretical Models and Program Validity . . . 46
4. The Evaluation Gap 47

E. Conclusions and Recommendations 48

1. Conclusions 48
2. Recommendations 50

Page

II. Acceleration Demonstration: Individual Placement Project 52

A. Explanation and Background 52

1. Summary of the Literature on Acceleration . . 53

2. General Outline of Individual Placement Program 54

3. Objectives 56

B. Methods: Program Design and Case Study 57

1. Alternative Sequential Outlines for Individual Placement 57

2. Two Case Study Approaches 62

3. Patterns of Curriculum Construction 64

4. Evaluation Designs 69

C. Results: 74

1. General Findings 74

2. Demonstration and Dissemination 78

3. Pupil Success in Program 80

4. Field Services 84

D. Discussion: 88

1. Selected Interpretation of Findings 89

2. Unsolved Difficult Problems 92

E. Conclusions, Implications and Recommendations . . 94

1. Conclusions 94

2. Implications 96

3. Recommendations 97

F. Summary 98

Page

III. Counseling-Instructional Program 99

A. Introduction 99

1. Problem 99

2. Major Emphases 99

3. Anticipated Benefits 99

4. Relationships of Counseling and Guidance to Instruction 99

B. Method 100

1. Selection of School District 100

2. Steps to Implement the Program 101

3. Anticipated Time Schedule 102

4. Overview of Program Development 105

5. Screening and Identification of Pupils to Participate in the Counseling-Instructional Program 107

6. Inservice Training 110

7. Demonstration 111

8. Roles of the Project Consultant 111

a. General: Demonstration and Dissemination 111

b. Research 112

c. Developmental Activities 112

d. Resume of Roles 113

Page

C. Results 117

Demonstration program, Publications, Appraisal devices, Counseling topics, Counselor-teacher relationships, Student reactions, Parental reaction 117

D. Discussion 121

1. Relationship$Counselor-Teacher 121

Counselor's role in curriculum; teacher's role in guidance and counseling

2. Inservice Materials 122

3. Dissemination 122

E. Conclusions, Implications, and Recommendations. 123

1. Conclusions 123

2. Implications 123

3. Recommendations 123

F. Summary 125

1. Brief Description 125

2. Objectives 125

3. Methods Used 125

4. Results 126

5. Highlights: Findings, Significance, and Recommendations for Further Action 126

Example 1 - Typical Small Group Counseling Sessions 127

Example 2 - Attitudinaire on MGM 133

Example 3 - Social Values Opinionnaire 137

Page

IV. Special Class Demonstration 140

A. Introduction 140

1. Explanation and Anticipated Benefits 140

2. Research Findings Which Influenced the Design of the Special-Class Demonstration 140

3. Rationale 141

B. Method 142

1. Establishment of Special-Class Programs . . . 143

2. Initial Procedure 143

3. Administrative Structures of School Districts Participating as Demonstration Centers Which Featured Special Class Programs (Davis Unified School District and Lompoc Unified School District) 143

4. Screening and Identification of Students for Special Classes 145

a. Description 145

b. Manifestations of Talent 145

c. Findings and Recommendations Regarding Identification 146

5. Group Counseling of Gifted Children in Special-Class Programs 148

6. Curriculum Development 148

a. Materials and Methodology 148

b. Social Science 150

c. Art 153

Page

d. Language Arts 154

e. Reading 155

f. Mathematics 156

g. Science 157

7. Inservice Education, Demonstration, and Assistance to Districts in Installing and Institutionalizing Educational Innovations, Model Programs, Content, and Procedures . . . 159

a. Inservice Education 159

b. Demonstration Activities 160

8. Roles of the Educational Research Project Consultant in the Special Class Program Demonstration of California Project Talent. . 161

a. Program Developer 161

b. Diffusion Specialist 162

c. Demonstration Supervisor 162

C. Results 164

1. Demonstration Program 164

2. Publications 164

D. Discussion 164

E. Conclusions, Implications, and Recommendations. . 165

Page

V. Summary: California Project Talent 172

A. Background and Philosophy 173

B. Program Development and Dissemination 176

C. Special Features and Problems of Each Demonstration 177

D. Outcomes and Unsolved Problems 179

VI. References 183

VII. Appendices 188

Appendix I

Appendix II

Appendix III

Appendix IV

Appendix V

Appendix VI

VIII. Eric Resume Form

California Project Talent

Final Report

Introduction

California Project Talent was a three and one-half year federally supported program for demonstrating key features of four programs for mentally gifted minors. Although the main emphasis was upon demonstration activities and not upon research and development, key developmental activities occurred within the life of the project.

The crucial aspects of this project were dissemination of ways of organizing content and learning experiences; of providing flexible progression through content, learning experiences, and grades; and of counseling and instructing gifted children and youth. Important, too, were insights gained into the nature of consultant roles as applied in each of the demonstrations.

In preparing the application for the cooperative research grant which supported this program, the Co-directors had in mind:

1. The previous research conducted by and a publication by Henry Brickell on "Organizing New York State for Educational Change."

2. The Illinois Gifted Student Demonstration Program.

3. The need in California to establish demonstration centers which would highlight crucial aspects of four of the State programs for mentally gifted minors.

In recent years, the Co-directors also had become cognizant of conceptual research on educational change and on how various matrices or schemas might help to clarify "role specializations" in educational innovation. A schema found useful was the "Classification Schema of Processes Related to and Necessary for Change in Education." This schema, other literature on educational innovation, and demonstration efforts in California and Illinois seemed important precursors of the Elementary and Secondary Education Act of 1965 and of steps taken to reorganize administrative structures and functions within the California State Department of Education.

Basic concepts which underlay demonstration and dissemination efforts were:

1. Different types of gifted children profit by different types of programs.

2. Acceleration, enrichment, counseling-instructional and special class programs are valid programs for gifted children and youth.

3. To build credibility into the demonstrations it is necessary to show how programs might be installed and institutionalized in other school districts.

4. While demonstration efforts may emphasize demonstration and dissemination of previously validated programs, it is also necessary to refine aspects of these programs during the life of the project and to see them in light of changing educational thought and new ways of perceiving and producing innovations. Thus developmental and dissemination activities are valid aspects of demonstration programs which extend over a period of several years.

5. By showing how to improve the intellectual and creative traits that characterize a typology, it is possible to show the value of a typological approach as a transitional step from dealing with groups of children with great heterogeneity to individualizing instruction.

6. Some of the same principles undergirding these demonstrations can be applied in improving the total educational programs of school districts.

7. While some types of programs may emphasize administrative arrangements or changes in curriculum content, all programs should be based on knowledge of the typology and on case study data of individuals.

8. A key factor in the success of each program was the selection and training of competent teachers--persons who because of special knowledge and skills were able to relate well with intellectually and creatively gifted children and youth. Another key factor was proper identification and placement of students.

9. An important direction for education to take in the last third of the Twentieth Century is the deliberate advancement of specific intellectual skills and specific aspects of creativity--and full development of human potential.

By applying such models as the Taxonomy of Educational Objectives by Bloom et alii, "The Structure of the Intellect" by J. Guilford, and some of the thinking of such persons as Jerome Bruner, it is possible to do a better job of defining instructional objectives for the gifted, of planning classroom dialogue, of making meaningful assignments, and of devising evaluation and appraisal instruments which show growth of intellectual power and creative production.

A brief look into the future

While a demonstration program has as its basic purpose the portrayal of key elements of past programs, it is also important to note a progression of ideas from previous models to future goals. Because of the success of California Project Talent in attracting observers, preparing publications, developing inservice education material, and in improving the competencies of teachers and other persons involved in the participating districts, it would seem important to emphasize the need and to state the desirability of continued demonstration efforts supported by state and federal funds. It is possible to see operational aspects of the Elementary and Secondary Education Act of 1965, current efforts of state departments of education, and interest of persons in local school districts functioning in a dynamic milieu. Important in such an environment would be specialized efforts in scanning research and practice, the development of model programs, field testing these model programs, informing educators and the public about successes and failures in these test situations, and in providing the financial and consultative support necessary for local school districts to install and institutionalize comparable programs--but programs tailor-made to the needs of particular children, in particular communities, working with teachers of certain levels of sophistication, and in situations where certain resources are available.

The following four sections of this report summarize each of the four demonstration programs: enrichment, acceleration, counseling-instructional program, and special-class programs. These sections present the history of California Project Talent, provide guidelines for program development, and propose recommendations which hopefully will be of practical value to persons wishing to carry on similar types of programs, operate similar demonstration programs, and/or carry on developmental efforts which extend beyond those conducted in California Project Talent. The fifth section presents a resume of background and philosophy, program development and dissemination, special features and problems of each demonstration, and outcomes and unsolved problems.

I. Enrichment Demonstration:

Teacher training and course content

A. Program Structure

The term "enrichment" is one of the most frequently used, and perhaps abused, by the education profession. Definitions of "enrichment programs" tend to be over generalized and unwieldy. Nevertheless, widespread attention to any program purporting to promote the goals of general curriculum enrichment can be expected.

The guidelines for establishing enrichment programs developed by this project should be considered selective and specific. No claim is made for the general applicability of these guidelines to the exclusion of the innumerable suggestions for curriculum enrichment which are available from other sources. The enrichment demonstration reported here was patterned after existing programs in the Los Angeles City Schools. This enrichment demonstration specialized in the construction of new course content for units of enrichment in the elementary school and guidelines for inservice teacher training. The general objectives of this Los Angeles Demonstration Center included: (1) analysis of the needs and design of repeatable programs of inservice training for teachers of gifted children, (2) the invention, tryout and dissemination of special enrichment courses of study in "scientific discovery, methodology and investigation through a study of graphic representation of statistical information," "creative expression through a study of the literary element of characterization," and "critical appreciation through a study of the fundamental forms of music," and (3) search, design, tryout and description of effective and efficient settings and methods for enrichment program dissemination and wholesale export to outside school districts. (47, 49)

A publication entitled, Enrichment Programs for Intellectually Gifted Students will become available from the California State Department of Education. This publication will present the substantive findings for this enrichment program in the areas of teacher training and curriculum development. Also, an attempt has been made to review the pertinent literature. Owing to the generalized nature of enrichment programs, literally all of the literature pertaining to curriculum construction and teacher training might be deemed appropriate to review. Therefore, of necessity, any treatment of the literature pertaining to enrichments programs must be highly selective. This final report on the Los Angeles Demonstration Center for Enrichment will attempt to summarize the following: (1) descriptions of operational enrichment programs for teacher training, for pupil enrichment units in the classroom, and for actual techniques and settings for program demonstration and dissemination; (2) analysis of the effectiveness of consultant and teacher roles in curriculum design, development and modification; (3) surveys of the apparent success of program export to outside school districts; and (4) analysis of the difficulties encountered in evaluating enrichment programs.

1. Definition. Traditional definitions of "enrichment" were found to be vague, over generalized and operationally meaningless. A definition for enrichment within the context of this program was sought which would both suggest guidelines for teacher training and outline objectives for curriculum content.

The existing criteria for enrichment of the Los Angeles City Schools were exploited as the basis for the final definition. Five major criteria were found to form the basis for existing enrichment programs within the Los Angeles City Schools including:

a. A learning environment conducive to exploration and originality is maintained.

b. Provision for individual differences are made.

c. Depth and scope in planning learning opportunities are advised.

d. The student is afforded opportunity for reflective thinking, problem solving and critical thinking.

e. The student is afforded opportunity for creative thinking and expression.

The school system had described six elements of enrichment programs which bear upon structuring inservice training opportunities for teachers including:

a. Characteristics of the learner must be understood by the teacher.

b. The needs of society should be considered in the planning of enrichment units.

c. The basic principles of learning should be studied, understood and applied by teachers.

d. Socio-psychological implications of educational programming should be understood by the teacher and recent findings describing the social and psychological behavior of students applied to classroom methodology should be studied.

e. The levels of intellectual functioning on the part of students need to be understood by teachers in developmental terms.

f. At the basis of curriculum construction must be an understanding of the logical sequence and interrelatedness of subject matter fields.

Utilizing these criteria, the following operational definition of enrichment was prepared for this demonstrational program:

"Enrichment is a program planned to develop the potentialities of intellectually gifted students by arranging a learning environment conducive to exploration and originality, considering individual differences, including depth and scope in learning experiences, providing opportunities for reflective thinking, problem solving, critical thinking and creative thinking; enrichment is based on the characteristics of the learners, the needs of society, principles of learning, socio-psychological implications, levels of intellectual functioning, and the logic and sequence of subject matter fields."

2. Primacy of Enrichment Prototype. As will be shown, the enrichment demonstration program proved to be the most popular, the most successfully demonstrated and most widely emulated program. This success was anticipated since a virtually unbeatable combination of arrangements were included in the planning for this program prototype. Its location in the largest and best known school district in the state coupled with the popularity of the enrichment program prototype assured that statewide and regional attention would be focused on this program. It was envisioned from the outset that this demonstration would influence not only the establishment of enrichment programs in other school districts, but would also offer specific curriculum ideas for incorporation into other program prototypes such as acceleration and, particularly, special class programs. The primacy of the enrichment program prototype is essentially based upon the universality of its applicability to almost every educational setting.

Following is a selective list of the reasons why the enrichment prototype might be viewed as the "primary prototype among the programs demonstrated:"

a. General prototype: The curriculum and teacher training guidelines developed for the enrichment program were found to be almost universally applicable to other types of programs. (49)

b. Curriculum centered: The enrichment prototype is comparatively uncomplicated by "administrative plans" which are so crucial for the successful operation of acceleration, counseling, or special class alternatives. Also, this program is unencumbered by intricate "accommodation or articulation" considerations. Consultants and teachers working in this program can devote most of their time to direct study and change of the curriculum. A hidden pitfall in this seeming simplicity is that of inadequate attention to evaluative techniques and outcomes. The terms, techniques and conditions of the "enrichment process" tend to be accepted as axiomatic; curricular adaptations may be accepted "on faith" instead of exposed to evaluative criteria and objective scrutiny. In spite of these possible handicaps, this program still represents the most efficient vehicle for study and change of curriculum content, materials, and methods.

c. Teacher centered: The adequate implementation of an operational enrichment program, as described in this section of the final report, goes to the root of educational change when it focuses upon changes in teacher behavior, knowledge, and professional insightfulness. Sound enrichment programs begin with inservice organization and training of teachers rather than viewing inservice training as an afterthought or supplemental program. From the perspective of the consultant, the inservice teacher training program represents the operational reality of the program proper; that is to say, the teacher rather than the student becomes the real recipient of innovative program change. It is hypothesized that recommended changes in teacher attitudes, behavior and knowledge will directly result in exemplary curriculum change, additional incorporation of new content into the curriculum, more insightfulness for the academic problems of students, better communication of and transfer of more effective teaching techniques across classroom boundaries, and spontaneous presentations of demonstrational situations as teachers develop new units of study or techniques.

As a consequence of the teacher-centered flavor of this enrichment demonstration, approximately half of the products developed and demonstrated are directly related to teacher inservice training.

d. Balance of theoretical and practical factors: This program did not allow for the artificial separation of theory from practice. Theoretical models and recommendations for the understanding of higher level mental processes from the literature, were directly applied and used for actual curriculum construction. While such areas as teaching methodology, learning environments, or related research findings were all studied by teacher groups, all such studies were subjected to the practical criterion of direct application to classroom practice. (3, 5, 23)

The inservice workshop sessions for teachers implementing enrichment programs had a certain "laboratory quality." After a session or two, participating teachers no longer perceived of themselves as "learners" nor "workers" in any restrictive sense. Rather, they began to practice new roles such as curriculum constructors, curriculum inventors and implementors, or theory translators. Of utmost importance was the marked change in attitude from "teachers as conveyors of curriculum" to "teachers as facilitators for the development of higher level mental processes in students." Inevitably, and in accordance with the predictions of Bruner, educational process came to be the predominant area of concern. (5)

e. Total utilization of district staff and facilities: Referring to enrichment as a general prototype, and based upon the assumption that enrichment programs with imaginative implementations have applicability to the total pupil population, all district staff and facilities can be inter-related and utilized in this program. Serious implementation of an extensive enrichment program calls upon the consultant to inventory and assess all existing facilities, staff and materials. Rewriting and tryout of enrichment units across diverse subject content lines, necessitates cooperation among supervisers, subject matter specialists, evaluators and teachers. As the program progresses, it is found that its ramifications extend to all areas of the curriculum. Significantly, this tends to be a healthy development because it catalyzes a chain reaction of related innovative changes.

f. Flexibility of enrichment prototype: This most flexible of program prototypes has application for acceleration, special class, counseling and advanced program prototypes. The concept of curriculum enrichment, as designed within this project, entails the qualitative redesign of all areas of study in keeping with the higher level mental functioning of gifted students. This emphasis upon qualitative as opposed to merely quantitative changes is more defensible, in the minds of most teachers, than competitive educational goals.

This rather clear-cut distinction between qualitative and quantitative program prototypes, prompted one of our summer workshop professors to design a lecture sequence on "enrichment versus acceleration type programs for the gifted." This infers that the elemental division among different programs for the gifted is that of enriched qualitatively different work for the student as opposed to advancement or sequentially advanced units of work. That teachers find more appeal in the "quality" alternative cannot be disputed.

3. Objectives and Scope. In order to envision the whole range of objectives of the enrichment demonstration, it is necessary to inventory the organizational components of the operational enrichment program in the Los Angeles Demonstration Center. Three organizational components included: (1) The enrichment educational programs designed for pupil participation, (2) The teacher training and curriculum building program organized by consultants for teachers and other professional staff, and (3) The Demonstration Center as an establishment for the dissemination and export of enrichment programs developed and guidelines for teacher training. All three operational components of the enrichment demonstrational program shared in common an idealized set of philosophical objectives describing pupil benefits. However, it is necessary to consider the operational objectives of the three operational programs separately.

The "long-range educational objectives of the enrichment program" formed the idealized base for the statements of specific operational objectives which follow. These long-range educational objectives were synthesized from earlier philosophical statements contained in publications of the Los Angeles City Schools and included the following goals: The following statements are framed in terms of expected outcomes on the part of pupils as a result of exposure to an ideal enrichment program:

Generation of effective thinking through development of all levels of intellectual functioning.

Use of basic skills effectively in oral and written communication and in research and independent study. Exhibition of good citizenship and personal and social responsibilities.

Understanding of the environment in daily living.

Appreciation of natural and manmade beauty in the world.

Understanding of international, national and local problems.

Development of personal character and good human relations.

Development of vocational competence.

Effective use of leisure time for personal satisfaction as well as human betterment.

Promotion of health and safety.

Promotion of successful family life and human companionship.

Development of effective consumer role through evaluation of needs and production.

Comparison of the aforementioned idealized goals reveal little, if any, difference between these objectives and the general objectives stated for education. However, it was found necessary to anchor the development of enrichment program objectives to generalized objectives since these enrichment programs tend to serve greater portions, if not the majority of students.

During inservice training programs, teachers were encouraged to constantly reevaluate both long-range educational goals and the specific operational objectives of the program in terms of such criteria as: validity of the statements, appropriateness of the goals in the context of a classroom setting, feasibility, precision of the statement of the goal, consistency and comprehensiveness. The application of these evaluative criteria resulted in frequent modification of both general and operational statements of objective.

The selected operational objectives of the enrichment programs to be discussed below were compiled expressly for this final report. They are based upon consultation with Los Angeles City District personnel, field consultants and a thorough review of the memoranda, publications and other documents constructed during the operational enrichment demonstration program. These goals for successful operation of the program represent both written and latent goals supervisors and consultants had for the program as it evolved.

Following, in outline form, are the selected lists of operational objectives of the enrichment program for pupils, teachers and the Demonstration Center:

Goals for Pupils:

1.0 Facility and use of higher level mental processes

    1.1 Use of problem solving resources

    1.2 Understanding and use of divergent thinking

    1.3 Application of creative solutions

2.0 Knowledge gain in prescribed areas of study

  2.1 Exposure to curriculum in related science and mathematical sequences

  2.2 Creative writing and expression

  2.3 Aesthetic appreciation and utilization of critical analysis of aesthetic forms

3.0 Self-understanding and expression of individual talents

  3.1 Manifested in school work

  3.2 Spontaneous expression in extra-curricular activities

  3.3 For individual excellence

  3.4 For social benefit

4.0 General growth in social-psychological maturity areas

  4.1 Development of scholarly habits

  4.2 Development toward social awareness and contribution

  4.3 Toward general psychological health

Goals for teachers:

1.0 Specific changes in teacher behavior promoted:

  1.1 Knowledgeability of the characteristics of the gifted

  1.2 Application of learning theory to curriculum construction in everyday lesson planning

  1.3 Understanding and application of socio-psychological theory to classroom work and the influence of individual pupils

  1.4 Classroom organization changes toward flexibility, grouping practices and individualization of instruction

2.0 Actual work on construction of new units of study:

  2.1 Subject matter specialties utilized as "expertise"

- 2.2 Theoretical constructs used as illustrative applications for "model curriculums"
- 2.3 Spontaneous classroom projects for pupils designed in the classroom to supplement special curriculums

3.0 Changes in role and function:

- 3.1 Teacher as observer, educational diagnostician
- 3.2 As educational programmer
- 3.3 As demonstrator
- 3.4 As experimenter
- 3.5 As team leader, innovator

Goals for demonstration center:

1.0 Establishment of model operational programs for demonstration:

- 1.1 Administrative channels of communication cleared, professional levels of liaison described
- 1.2 Teacher-consultant relationships managed and described
- 1.3 Demonstration lessons and situations set up

2.0 Regional workshops for demonstration and dissemination planned and executed

- 2.1 Prototype for typical regional meeting described
- 2.2 Enrichment program exported to outside districts through example and dissemination of materials
- 2.3 Followup consultant services described, provided

3.0 Written guidelines prepared, disseminated

4.0 Films, filmstrips and other products invented, produced and disseminated

As the operational goals for the enrichment program were implemented, it became apparent that ever more sophisticated concepts of the nature of demonstration became necessary. For example, the concepts of "demonstration within a demonstration or widening vistas of demonstration" had to be contemplated. A "demonstration within a demonstration" might occur when a small group of outside observers visits a classroom in which a field consultant is serving as a demonstrator and reinforcer for the regular classroom teacher while, at the same time, serving, in a more general way, as the "demonstration teacher" for the group of visitors. The classroom teacher, as opposed to the outside visitors, will be perceiving an entirely different set of functions. The teacher and the consultant really form a "teaching team" whereas the outsiders are truly "objective observers."

The concept of "widening vistas of demonstration" needs to be considered by the field consultant as he realizes the changes in group dynamics as the demonstration of programs or materials widen from specific classrooms to groups from a whole region. Four levels of demonstration occurred during this project including: (1) demonstration of daily lessons or materials for the benefit of one or a small group of operational classroom teachers of enrichment, (2) description of units of study and visits to classrooms for local intra-district workshops for teachers, (3) invitational demonstration and explanation of global enrichment programs for outside visitors, and (4) regional workshops for visitors outside of classrooms for the dissemination and export of total programs including curriculum units, guidelines for teacher training and products such as films.

As the exposure of the field consultant increases from a rather personal, face-to-face, relationship with one or a small group of classroom teachers to the role of a lecturer-demonstrator-disseminator, the field consultant must understand and apply more complicated, or intricate as the case may be, sets of principles of group dynamics. In the actual classroom or local workshop settings, the role of the field consultant is more like that of a "master teacher." For the purposes of outside demonstration or regional workshops the role changes to that of "expert, lecturer, exemplar of successful accomplishments."

All the while, the field consultant must perceive himself as motivated by "global objectives." That is to say, the field consultant must view the development of exemplary units of study and enrichment as the vehicle through which teachers learn to apply theoretical constructs. This process of teacher growth serves as the highlight of the demonstrational process when visitors witness exemplary teaching, curriculum in action and actual program success. The concept of "exemplary demonstration" becomes the unifying objective for all levels of the program's operation. Teachers literally "demonstrate" for one another on a daily basis. The field consultant demonstrates new development for groups of teachers as indicated. Both teachers and consultant freely demonstrate, advise and disseminate ideas, actual units of study and models of their behavior for visitors.

Owing to the immensity of the district of demonstration as well as the popularity of enrichment programs, management of the scope of the program could have become critical without serious attention to program operation and management. In order to expedite the development of actual units of study and operational guidelines for intra-district teacher training, the field consultant had to enforce an informal list of operational priorities. Since the entire demonstrational operation was dependent upon the writing of special enrichment units, consultant tasks such as the organization of teacher curriculum committees, actual writing of lesson plans and implementation of programs through the ordering of special pupil materials had the highest priorities. As a second order of priority, the notion of intra-district dissemination of the enrichment program needed to be implemented. Within district workshops were planned, conducted and evaluated with the result that the initial enrichment programs could be viewed as "exported" to other classrooms within the Los Angeles City School District. As a third order of priority, consultants and teaching personnel needed to allot time for holding workshops for outside professionals interested in the program. Demonstration of the program for outsiders was efficiently expedited by the production of such aids as films to demonstrate the enrichment units, filmstrips and guidelines.

At the program building level, the field consultant worked with 26 teachers at the intermediate school level within the Los Angeles City School District. These teachers conducted differing types of classroom organization including some classes with a heavy loading of gifted students, others with smaller clusters of gifted students, and still others with only two or three gifted children in an otherwise heterogenously grouped classroom. This group of 26 "demonstrating teachers" had an average gifted pupil enrollment in their classroom of 12.5 pupils. Therefore, for the duration of this curriculum constructing, demonstrating operation 325 gifted pupils were the direct beneficiaries of the new programs as well as being the "experimental group." Approximately 1,500 teachers and other professionals from the immediate Los Angeles area visited, studied or adopted the enrichment program at some point during its operation.

Approximately 2,500 educators from California and the Western Region visited local Los Angeles workshops, regional workshops or benefited from visits by field consultants for the demonstration, dissemination and export of the developed enrichment programs.

Thus, the eventual scope of this demonstration can not yet fully be estimated. It is known that 50,000 or more gifted pupils in California alone are exclusively enrolled in enrichment type programs. (The remaining 40,000 are in other types of programs.) It is known that over half of the school districts in California, and the districts enrolling larger proportions of the gifted students, directly participated in the enrichment demonstration program. Therefore, it may be confidently concluded that the "export effects" of this enrichment demonstration influenced changes in enrichment programs for well over half of the pupils in California. (40, 47, 49)

B. Methods: Program Design and Operation

No formal experimental design is claimed for this program. Traditional methods of teacher inservice training, curriculum invention and construction, lesson plan tryout, feedback and modification of curriculum units and operational formulae for effective conducting of dissemination workshops were practiced. Therefore, the term "methods" should be construed in this section to refer to such operations as: devising, understanding, and translating into practice prescribed educational goals; description and sequential adherence to specially devised classroom methods for child study, curriculum construction and program dissemination; and practical exploitation and utilization of related resources such as the literature on theoretical models or advanced study of subject matter fields for the upgrading of curriculum and teaching practice.

As outlined in Section A of this report, the operational objectives of the enrichment program can be envisioned in three groupings including "goals for pupils, goals for teachers and goals for the demonstration center." Each of these sets of objectives were implemented by the development of specific sequential methodologies and the utilization of appropriate related resources. Obviously, the primary goal for any educational program is the thorough study of pupil needs which results in an inventory of the kinds of materials, practices and sources of curriculum necessary to stimulate full development of the individual child. Hence, the first phase of this demonstration program included the selection of a dedicated and qualified group of perspective demonstration teachers, who in turn, studied the entire scope of the problem including a study of higher level mental processes, the creation of a list of priorities in an elementary enrichment program and the devising of a coherent and workable sequence of teacher inservice training needs.

It must be emphasized that a main operational objective of this enrichment program was to integrate the tasks of consultants and teachers in order to regenerate levels of competency among teachers. Following initial inservice training, teachers become actively involved in curriculum writing and tryout. Following this work task assignment, teachers become competent "demonstrators" thereby fulfilling roles not unlike the initial role of the demonstrating consultant. Hence, this whole program sequence might be viewed as an evolutionary process. This process culminates in the training of a resource pool of "teacher-demonstrator-curriculum builders" which becomes self-sustaining.

1. General Program Design. Three types of professional workers were involved in the development of these enrichment programs. The project field consultant generally organized, coordinated and distributed the results of the tasks accomplished. The central working core of an enrichment program is the group of teachers selected to be learners in the first phase of inservice training, later to become curriculum constructors, and finally to become demonstrators in their own right for other teachers in their school and district. Thirdly, various kinds of higher level district and outside personnel are necessary for the success of the program: resource consultants and specialists include college and university level theoreticians, subject matter specialists and practitioners from the field, and psychologists and others with specialized knowledge of group dynamics, human personality formation, child development and applications of learning theory.

Hierarchical establishment of traditional status roles tends to be discouraged and minimized in the development of an enrichment program. For example, teachers are actively encouraged to emulate the role of the consultant and serve as classroom demonstrators not only for outside visitors but for other teachers in their school for the efficient dissemination and export of the enrichment program to other classrooms. Work tasks are uniformly shared by consultants, teachers, resource persons and specialists alike. The overall result of this process is a marked increase in teacher morale, self-confidence and productivity.

All personnel tended to utilize a sequential design for their production of curriculum innovations and changing roles including the following five steps:

a. Invention - Utilizing "brainstorming" and group dynamics techniques,

b. Construction - Utilizing theoretical models for the actual preparation of lesson plans or descriptions of changing roles,

c. Tryout - Actual use of the new production in a setting which contains objective observers and plans for rating the effectiveness of the new product,

d. Feedback and Modification - Application of theoretical constructs and rating scales for constructive change of the product, and

e. Dissemination - Invite other peers to observe and export proven products at intra and interdistrict levels.

Table 1 summarizes the sequential tasks the field consultant undertakes in order to set in motion a series of events including the development of new enrichment units, the selection and training of a cadre of demonstration teachers and the establishment of a demonstration center for formal viewing of an operational program by outsiders. The numbers of the items in the columns of Table 1 are correlated. For example, in item four while the field consultant is "organizing inservice teacher training" teachers, as shown in the second column are in the role of learners while pupils are serving as experimental subjects. It can be seen that the developmental process of preparing demonstration classroom teachers is cyclical and self-perpetuating. As teachers serve in curriculum constructing roles, so also they come to fill consultant-teacher roles for fellow teachers thereby catalyzing further export of the enrichment programs to other classrooms, both in their school district and outside.

Table 1-1

Sequential Developmental Tasks of Consultants, Teachers, and Demonstration Center

Field Consultant	Demonstration Teachers	Pupil Programs	Demonstration Center
Analyzes total tasks establishes priorities, opens intradistrict lines of communication	1. Specialists, team leaders selected	1. (1-3. No formal program)	(1-7. No formal program)
Sets down preliminary definitions, operational objectives	2. Criteria for teacher selection codified		
Writes lesson plans as examples only	3. Demonstration teachers chosen	Formal Program begins:	
Organizes inservice teacher training	4. Teachers or learners: study methods, advanced contact	4-5. Pupils as subjects for study, selected classes for experimental tryout of newly invented curriculum	
Demonstrates curriculum construction utilizing theoretical models	5. Curriculum units written		
Advocates strategic changes in classroom environment, teaching methods and evaluation procedures	6. Teachers compare, criticize, attempt changes, obtain individual consultation	6-7. Selected classrooms serve as "test cases" for experiments in grouping, rearrangement study centers, etc. Reports of findings brought back to teacher training group.	
7. Acts as teacher-demonstrator in actual classroom settings	7. Teachers observe "team" with consultant, learn by doing		Formal Program begins:
8. Intradistrict dissemination of new curriculum units; advertise, invite outside observers	8. Teachers competent to become "demonstrators" invite other teachers in, emulate consultant role previously enacted for them	8. Newly developed curriculums, methods, evaluation forms universally used in demonstration classrooms	8. Other classroom teachers begin inservice, observe classrooms
9. Interdistrict workshops set up inservice training tasks reassigned to master teachers	9. Selected classrooms used for interdistrict demonstration; others repeat processes of teacher training and intradistrict export; selected teachers emulate consultant role	9. Widespread export of enrichment programs to other classrooms and outside districts	9. Outside personnel invited to observe attend formal workshops
Operates as disseminator exclusively			

2. Teacher Training. Several interrelated, yet distinctive, elements of the inservice training program need to be clarified at this time. First, a school district attempting to inaugurate a general enrichment program must conceive of its "charter group" of founding teachers and specialists as separate from the ongoing organized inservice training program these same founding teachers and specialists will perpetuate through their own example and work. Therefore, the initial group of demonstration teachers chosen ought to include individuals previously acknowledged as "master teachers" in their former work. These teachers will become the "teacher-consultant demonstrators" of the self-perpetuating enrichment program in the process of being organized.

Secondly, two distinctive purposes for the inservice training program can be isolated including: (1) the purpose of educating inservice teachers to the characteristics, needs and latest curriculum innovations necessary for serving gifted children, and (2) a second phase of the inservice training program involves these teacher-learners in actual work oriented tasks such as curriculum construction, tryout and evaluation--this second process could be thought of as a "workshop phase" whereas the former inservice program aspect could be thought of as the "teacher training sequence." In actual practice, the enrichment inservice teacher training program evolves sequentially from pure teacher education to work task oriented assignments for these same teachers. The points at which a given teacher learner emerges from the role of trainee to the role of demonstrator and curriculum constructor is, of course, dependent upon his individual endowment, background, motivation and applied skills. As in the case of any group of students, some teachers will remain relatively dependent upon the training aspects of the inservice program while other teachers will emerge as curriculum builders and demonstrational leaders comparatively early in the training sequence.

The inservice program begins as a formal periodic calendar of training sessions organized about a prescribed sequence of studies to be described later. This training phase of the program lasts, more or less, a semester of weekly meetings. Following this orientation to educational philosophy, psychological understandings and the principles of curriculum construction, the inservice training program, for the second semester, begins to resemble a workshop setting more than a formal training class. In this workshop phase, periodic meetings are less important; larger blocks of time are necessary for the actual writing, trying out and comparing of different approaches to curriculum construction. Therefore, one- or two-day workshops, or in the summer, week-long workshops were advocated and organized.

Summing up the procedures used by the field consultant for teacher training, the following practices were included: (1) formal periodic training sessions for inservice teachers, (2) individual conferences for teacher assessment and consultation, (3) group conferences for the initial assignment of curriculum building work tasks, (4) organized group workshops built around given subject matter themes for the actual construction of specific lesson plans with the help of specialists, materials and other necessary aids. A fifth stage in the teacher training sequence could be envisioned as that of formal demonstration when trained teachers offer themselves as examples for new groups of teachers beginning the training sequence. Again, the concept of "cyclical involvement of teachers and consultants" should be related to the reader's understanding of the inservice teacher training program development. Through the individual and group conferences and the workshops, planned observation lessons were built which, in turn, served as a "valuable device for educating teachers."

The formal inservice teacher training sequence developed at the Los Angeles Demonstration Center included the following sequence of topics:

1. Review of Professional Literature
    - 1.1 Intellectual Levels, Definitions of Talent, Creativity, Giftedness
    - 1.2 Non-Intellectual Characteristics of the Gifted Including Physical, Social and Emotional Variables
    - 1.3 Individual Differences as a Philosophy of Education
    - 1.4 General Learning Theory
2. Sociological and Psychological Implications for Enrichment Work with Individuals and Groups
3. Classroom Organization
    - 3.1 Teaching Techniques and Teacher Evaluation
    - 3.2 Classroom Environment and Structure
    - 3.3 Grouping, Clustering
    - 3.4 The Utilization of "Learning Centers" Including Library Corners, Specific Subject Matter Learning Centers or Listening and Viewing Centers

4. The Development of a Curriculum for Creative Expression

   4.1 For use as a model such studies: "Structure of Intellect Model: Its Uses and Implications" by J. P. Guilford or Guiding Creative Talent--E. P. Torrance

   4.2 Studying and understanding creativity in terms of the higher level mental processes

   4.3 Development of specific curriculum with special attention to such areas as: literary forms, reading and English skills and oral and written expression

5. Special development of a curriculum for the enhancement of critical appreciation of fine art forms

   5.1 As a basis for studying the structure of intellectual processes such resources as Process of Education by Jerome Bruner

   5.2 Study and application of subject matter to the model of curriculum by emphasis upon such contents as: music--instruments of the orchestra, structure and form of music, periods of musical history or types of themes in music; or, art--including formal studies of art elements and principles, periods of art history and typical themes in art

6. Development of a curriculum to promote the development of scientific discovery, methodology and investigation

   6.1 Utilization of The Taxonomy of Educational Objectives--Cognitive Domain by Bloom for use as a theoretical model for the development of curriculum

   6.2 Exploration of such areas as astronomy, geography, mathematics and research methods as possible contents for the teaching of scientific methodologies

   6.3 Specific study and use of statistical information and graphic representation as a vehicle for the understanding of scientific discovery and methodology

3. *Curriculum Construction*. Two essential ingredients were recognized in the teacher training sequences: (1) Intensive knowledge of specific subject matter areas and (2) Knowledge of and practical application of theoretical models upon which to build lesson plans. Due to the particular contents chosen for the three "model" lessons developed, disciplined knowledge of contents in graphic representations, music and art elements, and literary forms were required. Of course, the possible range of specialization in terms of subject matter content is literally limitless. This demonstration, therefore, cannot claim the development of specialized contents for use in circumscribed classroom situations to be the main objective of this demonstration center. Rather, the main objective was to train teachers in the use of theoretical models for curriculum construction in order to promote the use of higher level mental processes among students. Content tended to be viewed as the instrument through which the higher level processes emerged and were utilized.

Furthermore, the relating of a particular theoretical structure to a given subject matter content seemed irrelevant. That is, "the structure of intellect model by Guilford" might have been used as the basis for curriculum construction in any of the subject matter content areas. Investigation of other school district adoptions of this plan of curriculum construction revealed, as a matter of fact, that given school district population tended to favor one of the theoretical models over the rest and used this favored model as universal model for the construction of all of their subject matter content areas.

Moreover, even though two of the theoretical models (Bloom's *Taxonomy* and Guilford's *Structure of Intellect*) tend to be more complex, nevertheless all three models, including Bruner's stages as described in *The Process of Education* are quite similar. All three models describe a learning sequence beginning, at a first stage, with learning or retaining and recalling knowledge, proceed to a second stage which is variously described as "comprehension, application or divergent or convergent thinking" and leading to a third stage, universally described as, "evaluation." The basic point for teacher training is quite simple: "Curriculum content and classroom discussion should be so structured as to evoke higher level mental processes in pupils." (3, 5, 22)

The major task of the teacher engaged in curriculum construction is that of developing a personal capability for organizing lesson plans, on a daily basis, to include guiding questions, activities, materials and expressed purposes which will stimulate higher level mental processes on the part of students as they learn the content and proceed to comprehend, apply, think about and evaluate the content.

The most effective practical way for training teachers to organize their daily lesson plans in the manner described, proved to be the writing of short, specialized units of study by the consultants for use by teacher trainees in the classroom under the supervision of the consultant. For example, one such lesson plan was designed and titled "Scope and Sequence Outline for Experiences Leading to Creative Expression." This short unit of study incorporates a given content, in this case a series of books along with related activities such as listening to music or integrating period painting styles with the readings. The lesson plan begins at a level described by Guilford as "Cognition-memory." Guiding questions and activities are prescribed which involve straight-forward learning (e.g., associational tasks) on the part of the pupil. (60)

A summary and transition is made from the memory level to that of "convergent thinking." At this level, the teacher relates units of work and guides discussion intended to discover whether or not the students are capable of arriving at "the correct solution" or whether they "conform to given behavioral norms."

Perhaps the transition from "convergent thinking" to "divergent thinking" is the most important operation in this particular lesson plan. Here, the teacher stimulates independent discussion leading to more individualized or synthesized conclusions on the part of students. It is important to test the student's capability to answer such questions as "What would be the case if certain factors were changed?"

Finally, can students apply critical thinking to the task of assessing, evaluating, and judging their own work as well as comparing and contrasting their work with that of others. As a teacher develops a lesson plan designed to lead children from knowledge gathering to higher level functions such as divergent thinking and evaluation, he must bear in mind that many of these operations occur in eccentric order. It is the task of the consultant during inservice training of teachers to impart theoretical models for use by the teachers without chaining them compulsively to these models. Children will not always display higher level mental processes in any particular order. For example, the teachers must be trained to look for novel or divergent thinking in an unexpected sequence. On the first day of a given lesson, a particular student may manifest a capability for divergent thinking or critical evaluation of a unit of study.

Tables 1-2, 1-3, and 1-4 illustrate the framework upon which teachers were trained to construct curriculum content within given theoretical models. For the use of all three models, it will be noted that curriculum constructors were asked to utilize a five-way, page-by-page, format including (1) specific purpose (2) content (3) procedure (4) materials and (5) related activities. The framework reminds the teacher that a summary and transition should be made level to level. The arrow indicates focus for a particular daily lesson plan.

Table 1-2

FRAMEWORK FOR THE APPLICATION OF GUILFORD AND MERRIFIELD'S "THE STRUCTURE OF INTELLECT MODEL: ITS USES AND IMPLICATIONS" TO COURSE OUTLINES FOR THE DEVELOPMENT OF CREATIVE EXPRESSION

OPERATIONS

		Reading Skills					Literature					English				
		Specific Purpose	Content	Procedure	Materials	Related Activities	Specific Purpose	Content	Procedure	Materials	Related Activities	Specific Purpose	Content	Procedure	Materials	Related Activities
COGNITION	Cognition→ Memory															
		Summary and Transition: (Cognition— Memory)														
MEMORY	Cognition Memory→ Convergent Thinking															
		Summary and Transition: (Cognition, Memory— Convergent Thinking)														
CONVERGENT THINKING	Cognition Memory Convergent Thinking→ Divergent Thinking															
		Summary and Transition: (Cognition, Memory, Convergent Thinking— Divergent Thinking)														
DIVERGENT THINKING	Cognition Memory Convergent Thinking Divergent Thinking→ Evaluation															
		Summary and Transition: (Cognition, Memory, Convergent Thinking, Divergent Thinking— Evaluation)														
EVALUATION	Cognition Memory Convergent Thinking Divergent Thinking Evaluation→															
		Summary: (Cognition, Memory, Convergent Thinking, Divergent Thinking, Evaluation)														

CONTENTS

Figural Symbolic Semantic Behavioral

PRODUCTS

Units Classes Relations Systems Transformations Implications

RELATION OF CREATIVITY TO THE HIGHER MENTAL PROCESSES

Orientation Preparation Incubation Illumination Verification

Table 1-3

FRAMEWORK FOR THE APPLICATION OF BRUNER'S "STRUCTURE OF INTELLECTUAL PROCESSES" TO COURSE OUTLINES FOR THE DEVELOPMENT OF CRITICAL APPRECIATION

		MUSIC					ART				
		Specific Purpose	Content	Procedure	Materials	Related Activities	Specific Purpose	Content	Procedure	Materials	Related Activities
ACQUISITION	Acquisition → Transformation										
		Summary and Transition: (Acquisition → Transformation)									
TRANSFORMATION	Acquisition Transformation → Evaluation										
		Summary and Transition: (Acquisition, Transformation → Evaluation)									
EVALUATION	Acquisition Transformation Evaluation →										
		Summary: (Acquisition, Transformation, Evaluation)									

Table 1-4

FRAMEWORK FOR THE APPLICATION OF TAXONOMY OF EDUCATIONAL OBJECTIVES: COGNITIVE DOMAIN (EDITED BY BENJAMIN S. BLOOM) TO COURSE OUTLINES FOR THE DEVELOPMENT OF SCIENTIFIC DISCOVERY, METHODOLOGY, AND INVESTIGATION

		Social Science					Science					Mathematics				
		Specific Purpose	Content	Procedure	Materials	Related Activities	Specific Purpose	Content	Procedure	Materials	Related Activities	Specific Purpose	Content	Procedure	Materials	Related Activities
KNOWL-EDGE	Knowledge→ Comprehension															
		Summary and Transition: (Knowledge→Comprehension)														
COMPRE-HENSION	Knowledge Comprehension→ Application															
		Summary and Transition: (Knowledge, Comprehension→Application)														
APPLICA-TION	Knowledge Comprehension Application→ Analysis															
		Summary and Transition: (Knowledge, Comprehension, Application→Analysis)														
ANALYSIS	Knowledge Comprehension Application Analysis→ Synthesis															
		Summary and Transition: (Knowledge, Comprehension, Application, Analysis→Synthesis)														
SYNTHESIS	Knowledge Comprehension Application Analysis Synthesis→ Evaluation															
		Summary and Transition: (Knowledge, Comprehension, Application, Analysis, Synthesis→ Evaluation)														
EVALUA-TION	Knowledge Comprehension Application Analysis Synthesis Evaluation→															
		Summary: (Knowledge, Comprehension, Application, Analysis, Synthesis, Evaluation)														

4. Methods of Program Dissemination. Three cyclical operations of program dissemination evolved during this demonstration including: (1) Within district inservice training coupled with program dissemination to other classrooms, (2) interdistrict workshops to which were invited professional personnel interested in establishing the enrichment program in their own districts and who, it was assumed, would follow through by requesting guidelines and followup consultant services, and (3) regional workshops and conferences designed to acquaint higher level personnel with the possibilities for enrichment programs as well as encouraging them to establish regional personnel to perform services equivalent to the demonstrating field consultant.

The intra-district dissemination of the program was accomplished, through the inservice training program outlined elsewhere. After the "charter group" of demonstration teachers was trained and demonstrating, it became possible to announce formal invitations to interested district personnel to attend daylong demonstrations for the purpose of program exposure and possible export.

In general, bi-monthly demonstrations were held at the Los Angeles City Schools Centers during the last year and one-half of this project. Typically, a demonstration was arranged for 50 professional visitors. In a few instances, as many as 200 attended. These visitors had acquaintance with the program from prior viewing of films or filmstrips, reading articles or through correspondence. The workshop outlined for a day's duration normally included:

Orientation to and background for the program

Lecture type treatment of the theoretical models, appropriate subject matter content and processes of education as utilized in these enrichment programs.

Small group observations of actual enrichment classroom with specially trained demonstration teacher working in conjunction with field consultant.

Discussion including critique of lesson observed.

Opportunity to rate demonstration lesson and program prototype.

Summary of the sequential plan for establishment of enrichment program prototype with invitation to procure program products and consultant services.

It was thought that the curriculum guidelines passed out during demonstrational meetings along with the films and filmstrip developed should be sufficient for the establishment of the enrichment programs in outside school districts. Field consultant services were provided for supervisory and administrative level personnel in order to review sequential plans for the organization and establishment of the program and its services in their school district.

Regional workshops for supervisory and administrative personnel contemplating the promotion and dissemination of enrichment programs in their area were also provided by this project. Typically, such a workshop would last one to two days and include district and county level personnel. The purpose for the workshop would be to organize leadership personnel to perform operations similar to the field consultants. The typical program for a regional workshop would involve lecture-type presentations and discussion of the following topics:

a. Developing enrichment programs:

(1) The utilization of demonstration situations and teachers;

(2) The establishment of a framework for periodical inservice training for teachers;

(3) Three special programs of enrichment for intermediate pupils including sequential programs of creative expression in the language arts, critical appreciation in the fine arts and scientific discovery, methodology and investigation in mathematics, science and social science; and

(4) A discussion of rationales for various types of pupil grouping, including cluster grouping.

b. Theoretical models for enrichment:

(1) J. Guilford's "Structure of the Intellect" as it has been related to demonstration programs in creative expression;

(2) J. Bruner's "Process of Education" as it has related to the program for critical appreciation; and,

(3) B. Bloom's "Taxonomy of Educational Objectives; Cognitive Domain" as it has been related to the program in scientific methodology. (3, 5, 22)

c. Organizing task force approaches for the development of programs:

(1) A survey of national and state trends in the education of gifted children should precede organization of local efforts;

(2) Efficient utilization of educational and lay specialists;

(3) Committee and conference work for the solution of differences in philosophy;

(4) Educational engineering - Understanding theory and putting it into actual practice; and,

(5) Structuring teaching teams with adequate consultive and administrative aid.

d. Organizing, administering and evaluating district level programs:

(1) Program administration - should involve clear definitions, statements of philosophy and policy, multiple staff assignments, channels for communication and arbitration should be open;

(2) Program organization - assigning district-wide committees for teacher resource libraries, identification, program recommendations, specific staff assignments for program development, teaching and evaluation, choosing demonstration teachers and rewarding same, objectively assessing program outcomes, tolerance for change and choice is nurtured;

(3) Program procedures; inservice training, master teacher demonstrations, invitation for teacher suggestions and feedback, responsibility for writing of programs and lesson plans, relate enrichment content to regular course of study, allow teachers time to add to their knowledge; and,

(4) Program followup - periodic evaluation of achievement, satisfaction and pupil growth; continuing inservice training and teacher growth in knowledge.

Widespread distribution of the guidelines, films and filmstrip produced as part of this project have already resulted and will continue to result in adoption of these enrichment programs in an ever-widening circle of school districts. Even though it has been emphasized that ultimate successful export of this program should be correlated with permanent demonstrational facilities, negotiations were completed with the producers of the films, "Acme Film Laboratories," in order to assure that the products of the demonstration would continue to be promoted and disseminated after the formal culmination of this project. Hopefully, the continued availability of the films and filmstrip along with the publication entitled Enrichment Programs for Intellectually Gifted Students published by the California State Department of Education coupled with continuing consultant services from the California State Department of Education in the form of a staff of "consultants in the education of the mentally gifted" will result in continuing dissemination, export and adoption of these programs by school districts.

Evaluation Procedures

The publication entitled Identification and Case Study published by the California State Department of Education served as the basis for pupil evaluation in this program as in the other prototypes. The rating scales, inventories of information and suggested criteria are all based upon the three theoretical models utilized throughout this project including Guilford's "Structure of Intellect." Thus, general pupil growth in the cognitive, conative and affective domains were deemed to be prima facie evidence of program validity.

As noted in the outline of sequential inservice teacher training topics, "child study" was integrated into the overall enrichment scheme. Therefore, objective observation of students led to immediate modifications of curriculum content as well as changes in teacher behavior.

From a practical point of view, such obvious measurements as attendance at workshops, export of the program to other school districts and sheer numbers of trainees and workshop participants were deemed to be evidence for the evaluation of success of this program. Rating forms for the films and workshop formats were designed, as indicated, during the various developmental phases of this project. In general, such criteria as "understanding and acceptance of the theoretical models, actual utilization of the curriculum in new classrooms or the effectiveness of the project products on changing teacher attitudes and behavior" were utilized in these rating forms.

In addition to the rating scales and criteria contained in the "identification and case study forms" developed for the project as a whole, the following special evaluative criteria were applied to teacher evaluation of students and self-evaluation by teachers, respectively:

Criteria for Teacher Evaluation of Student:

1. Ability to solve problems

2. Knowledge of subject matter areas

3. Interest in school

4. Ability to think in terms of the whole and to see parts in relation to the whole

5. Research skills

6. Ability to work independently

7. Status in peer group
8. Critical thinking ability
9. Rapport with teacher
10. Motivation toward learning
11. Knowledge of basic skills
12. Intellectual curiosity
13. Ability to accept responsibility
14. Opportunity to create and experiment with ideas and things
15. Self-understanding
16. Acceptance of leadership roles

Criteria for Self-Evaluation by Teachers:

1. Growth and effectiveness of teaching skills
2. Knowledge of subject matter areas
3. Understanding and acceptance of gifted students
4. Enthusiasm
5. Ability to constructively criticize
6. Ability to form independent opinions, values and approaches
7. Ability to analyze and evaluate self-involvement and growth
8. Understanding and ability to analyze problems
9. Ability to fulfill new roles such as objective observer for other teachers

Special evaluation tools were developed to inventory, if not to actually evaluate, the information gathered in this enrichment program. For instance, the "Diagnostic Information About Cluster Groups" checklist form contained in the enrichment guidelines publication enables the teacher to compare growth of individual students within the cluster with their intellectual peers. Also, special checklists were devised to inform teachers of their actual classroom needs when setting up an enrichment program. These checklists inventory such matters as "classroom organization" as well as calling the teacher's attention to such factors as "originality." These checklists formed part of the basis for teacher self-examination. By utilizing the checklist the teacher could pose questions to himself concerning the way in which he had structured the classroom, modified his own lesson plans, changed his attitudes, or organized the overall task of arranging an enrichment program. Specialized checklists were also devised to bring teachers' attention to the need for special classroom arrangements, materials and equipment.

C. Results: Findings and Accomplishments

In general, the results of this enrichment demonstration were practical, material and demonstrational. The practical results of this demonstration resulted in the formation and use of task forces of teachers for actual curriculum construction, tryout and evaluation. The material or tangible products of this demonstration included guidelines, sample curriculums, films and a filmstrip, all of which resulted in widespread dissemination and adoption by other school districts and agencies. The demonstrational results of this project resulted in visitations by professional personnel numbering over 4,000 individuals representing more than 500 separate agencies, institutions and school districts.

Continued use of the manufacturered films and filmstrip guarantee continued export of the programs developed. Continued requests in the form of correspondence from school districts in and out of California also guarantee continued export of the specific enrichment programs developed to other school districts.

1. Survey of Products. The main product of this demonstration is a teacher training handbook entitled, Enrichment Programs for Intellectually Gifted Students, which will be published by the California State Department of Education with project funds. This publication summarizes the main aspects of an enrichment program including: background such as appropriate literature, the establishment of inservice teacher training programs, outlines for sample intermediate curriculums in science, language arts and fine arts, and a summary of possible evaluation techniques.

A second set of major products includes the series of fourteen films which are currently available from Acme Film and Video Tape Laboratories, Hollywood, California. Each film is 28 minutes and 30 seconds in length. The films are correlated with the publication described above. The fourteen films are divided into three separate units as described below:

a. Six films in a series entitled "Development of Scientific Discovery, Methodology and Investigation through a Study of Graphic Representation of Statistical Information," demonstrates an application of Benjamin Bloom's and others, Taxonomy of Educational Objectives: Cognitive Domain to the study of mathematics. Each film treats one of the six educational objectives including (1) knowledge, (2) comprehension, (3) application, (4) analysis, (5) synthesis and (6) evaluation.

b. A series of five films treats "The Development of Creative Expression through a Study of the Literary Element of Characterization." This series demonstrates a practical application of J. P. Guilford "Structure of Intellect Model" to the development of creative expression for pupils. The series encourages creative verbal expressions but specializes in the study of characterization in written forms. The series treats sequentially the development of the following cognitive processes: (1) cognition, (2) memory, (3) convergent thinking, (4) divergent thinking and (5) evaluation.

c. The final series of three films treats the subject, "Development of Critical Appreciation Through a Study of the Fundamental Forms of Music." This series applies Jerome Bruner's description of the stages of learning as contained in his book, The Process of Education. "Critical appreciation" refers to an attitudinal as well as a cognitive appreciation of selected fine arts forms including art and music. Each of the three films demonstrates a particular stage of learning including: (1) acquisition, (2) transformation and (3) evaluation.

Continued distribution and dissemination of these films has been arranged with Acme Film and Video Tape Laboratories of Hollywood, California. Single films are available for purchase at $47.39, the entire series of fourteen films is available at a cost of $663.46. Also, a rental arrangement has been negotiated and arranged with Acme Films. A single film may be rented for a 30-day period for $8. This cost was found to be comparable with "nonprofit film depositories."

Copies of the entire series will be housed in Northern and Southern California for distribution to school districts and teacher training agencies on a rental basis. Announcements and other forms of publicity have been distributed encouraging purchase and rental of these films for use by school districts for the establishment of enrichment programs.

Each film is accompanied by a film guide. For example, film 1 of series 1 entitled "Knowledge" is accompanied by a film guide outlining such topics as Definition of Enrichment, Summary of the Theoretical Model entitled, Taxonomy of Educational Objectives: Cognitive Domain, and a specific level of theoretical classifications applied in this particular film.

By December, 1966, the entire of fourteen films had been purchased by seventeen agencies including six out-of-state agencies in such places as Pennsylvania, Colorado, Illinois and Porto Rico. In addition, the film series has been viewed by 66 other educational agencies, school districts, and colleges representing most geographical areas of the United States as well as several extra territorial requests. Thus, it is clear that in a very short period of time these films have made a substantial impact upon educational change.

Evaluation of the film series has been largely favorable. Consultants and others indicate that the films definitely stimulate reassessment of existing curriculum and cause educators to consider the application of theoretical models to new curriculum construction. Critical appraisal of the films includes such recommendation as: (1) editing the films for elimination of redundancy and overall shortening of time and (2) reworking of introductory statements and student observation with printed subtitles. Both recommendations are currently being implemented by Acme Films with a view toward extensive editing and reworking of the film content.

A third major product was a half-hour filmstrip and correlated 33 rpm long-playing record, entitled "Enrichment Programs for Intellectually Gifted Students." The filmstrip and long-playing record were produced at the Audio-Visual Libraries of the Los Angeles City Schools as were the initial video-tapes for the fourteen films described above. The 73-frame color-sound filmstrip is suggested for use by administrative level personnel for such functions "in-service training classes, workshops, faculty meetings, and like situations." Also, the filmstrip is useful for outlining the philosophy and significance of this specific enrichment program. The filmstrip should find useful applications in teacher-training workshops at the college level as well as parent education meetings. The filmstrip and record are accompanied, in kit form, by a "Filmstrip Guide" of the same title. The filmstrip guide outlines purposes, suggestions for use and a narrative sequence for use with the visual filmstrip frames.

Two copies of the filmstrip kit have been deposited in all 21 of the California State Curriculum Repositories. Also, approximately 100 additional kits have been distributed to school districts throughout California. Evaluative feedback from the filmstrip has not been as thorough as that for the film series. In general, it has been found that the filmstrip is useful for an introduction to the theory and practice of enrichment program development. It does not, however, serve as a direct instructional tool for teacher trainees. Rather, it is a useful tool for acquainting prospective users of the enrichment materials with the scope and range of available curriculum possibilities for use in the classroom.

Lastly, a fourth type of product included a number of mimeographed "rough draft" publications including outlines for special curriculum of enrichment for use as demonstration lessons and units of study for use by inservice trainees. These limited production publications proved the efficient way to disseminate new curriculum innovations on an intra-district level.

2. Workshops and Dissemination. Overall evaluation of the dissemination function of this project became cumbersome because of the sheer number of visitors to the Los Angeles Demonstration Center. Over 5,000 separate individuals visited one or more demonstrational programs at the Los Angeles Center or a regional workshop. A mailing list of over 4,000 of these individuals was compiled based upon their explicit request for further information. In general, visitors intended to follow through with some program development in their home district. (44)

In addition, regional workshops were held throughout Northern and Southern California. Judging from correspondence and lists of attendees, it can confidently be stated that most regions in California received some exposure to the products of the enrichment model. Also, professional personnel from at least 30 other states attended one or more of the workshops or conferences conducted for this project. It is possible to conclude that, in a very short period of time, this demonstration has received widespread attention and adoption.

As discussed earlier, three types of dissemination functions were performed including: (1) Intra-district workshops for inservice training of teachers and adoption of the enrichment program in other classrooms of the district, (2) inter-district demonstration for the export of programs to other school districts, and (3) regional workshops for the widespread advertisement and adoption of these programs in the Western Region and Nation.

In all three types of dissemination this program was eminently successful. From a core group of three teachers and consultants, 26 teachers were "graduated" through the district inservice training program for enrichment teachers. All 26 of these teachers were judged to be responsible for future demonstration functions attesting to the success of their training program.

The rapid dissemination of the enrichment demonstration products throughout the intra-district lines of communication in Los Angeles was astounding. All of the school districts within the Los Angeles Schools system have adopted all or some part of the enrichment programs. Further growth toward universal adoption of this program within the classrooms of the Los Angeles City School District is anticipated.

As already validated, the attendance of inter-district and regional personnel at demonstration lessons and workshops was phenomenal. If anything, the total success of this program created embarrassing logistical problems since the staff was inadequate to handle the staggering volume of correspondence and field services.

During the third year of the project demonstration it was possible to conduct a number of regional workshops across county boundaries in California. Several of these workshops in the Bay Area and in Southern California proved to be popular and resulted in the further dissemination of program materials and curriculum units to other school districts. The regional workshop concept might be the most efficient means for further dissemination of these programs in the future.

Different motives, plans, and follow-up operations form the basis for the three types of demonstrational workshop settings. These types of dissemination functions are outlined and summarized in Table 5. As the operation of the project consultant reverts from that of a teaching role in an inservice training session to that of a "salesman" in a regional workshop setting, so the format for the workshop needs to change.

It is important to stress that intra-district workshops are complete sequential units of study for teacher training which result in the development of a cadre of teachers adequate to the task of becoming "demonstrator-consultant-master teacher," in their own right. By contrast, the interdistrict and regional workshops serve the purpose of "selling, merchandising and distributing" the aids, products and guidelines developed by the demonstrating district.

Interdistrict demonstrations usually include personnel already familiar with the program and interested in firsthand information about the actual "tooling up" for establishment of the program. Regional workshops, on the other hand, are more in the nature of promotional meetings in which the rudimentary aspects of the program must be explained to possible adopters. The appropriate followup for interdistrict demonstrations is consultation services at the host district for the actual implementation of the enrichment program in their setting. Followup for the regional workshops usually occurs at county or regional levels with supervisory personnel who need to become acquainted with the kinds of distribution and lecture techniques developed by the field consultant. The regional personnel become, in a sense, surrogate field consultants for the further regional distribution, establishment and evaluation of the program prototype.

Table 1-5

Types of Dissemination Functions Performed

	Intra-District Workshop	Inter-District Demonstration	Regional Workshop
tive:	Specific implementation of teacher training, curriculum construction	Show working program; promote interest to outside districts	"Sell" idea of enrichment programs; widespread utilization of project materials and plans
lans:	Train cadre of demonstration teachers, arrange period training session. Follow prescribed training outline. Evaluate teacher growth, construct unique curriculum act as "feeder" source for advanced methods of program dissemination	Orientation to program demonstration of lesson discussion, critical analysis distribution of guidelines mounting of available aids	Outline regional plan for promotion dissemination and establishment of regional enrichment programs distribution of guidelines, aids
ersonnel:	District consultants, resource personnel demonstration-teachers, trainees	Field consultant demonstration teachers guests	Field consultant regional supervisory level personnel
valuation:	Measure teacher growth Measure student growth Equate expenditure for teacher training with classroom changes	Ratings of demonstration lessons, Number of requests for services, Ratings of aids (e.g. films)	Program adaptions Requests for services aids, Ratings of products, Measured effect on curriculum change, Outgrowth of new curriculum applications
Duration:	1 Semester Workshops	1 Day demonstrations	1 Day workshops
Follow-up:	Repeat training programs for new groups of teachers Utilize trainees for export functions, demonstrations Modify program by analyzing feed-back	Provide Field services consult, advise	Field services recommend required organization Modify aids, materials from feed-back suggestions

3. General Professional Outcomes. The following selected "general professional outcomes" were based on evaluative discussions with the supervisory and administrative staffs of the Los Angeles City School District and other professional personnel such as district superintendents or county superintendents of schools. The invention, tryout, modification, and eventual distribution of enrichment demonstration products and programs has resulted in the following general outcomes in adopting agency programs and personnel:

a. Theoretical models outlining structures for the higher intellectual processes as well as sequential educational objectives are used for actual curriculum construction instead of traditional, "hit or miss", techniques.

b. Teacher training becomes recognized as an on-going obligation of school districts. Inservice teacher training for the development of curriculum as well as advanced teaching skills become established.

c. Academic supervisors, resource personnel and other specialists are directly exploited, to a far greater extent than was the case before program adoption. Formal integration of "educational process" with "subject matter content" becomes a reality.

d. The inauguration of "current learning centers in the classroom" are noted. Typically, adopting teachers will establish such learning centers as: listening and viewing centers, science centers, math centers, music or fine arts centers, and reading areas. This outcome is linked with the concept of classroom restructuring for specialized instructional areas.

e. The formation of inservice training committees in conjunction with ever-expanding cadres of graduated trainees results in an amalgamation of the traditional consultant-teacher roles. Mutual understandings between supervisory and teaching personnel become apparent.

f. Project materials such as films and guidelines are widely used and stimulate a process of curriculum development leading to ever-changing curriculum models and the production of new units of study.

g. Sharing and pooling of services and resources gains approval by teachers. Rotational schemes for the efficient use of expensive materials, in conjunction with team teaching arrangements results in optimal utilization of existing inventories and professional services.

h. Teaching and consultant tasks are better defined. The need for such specialized tasks as curriculum writing, expert demonstration of a technique for inventorying available community resources becomes recognized. Leaders emerge in specialized roles for which they are respected and utilized. These specialized roles fit into a group pattern rather than singling the individual out for undue praise; each individual teacher expresses his particular skills and is credited accordingly.

i. Administrators note markedly increased competency, initiative, morale and confidence in teachers associated with this program.

j. The need for permanent establishment of intra-district demonstration classrooms becomes apparent. The typical adopting school district designates specific classrooms for the perpetuation of the program.

k. The utilization of theoretical models for curriculum construction serve as a basis for the development of student rating techniques. The case study of a student employs more educationally oriented techniques, as opposed to purely psychological measurements. For example, teachers wonder about the actual growth of thinking processes in their students and request rating techniques. Case study process is viewed as integrated with teaching and forms the basis for overall evaluation, including grading, of the student.

l. Overall, the ramifications of a sweeping program such as enrichment effects changes throughout the educational program of the district. The introduction of this program, in itself, acts as a stimulator of innovation and change. The inservice training programs open dialogue between classroom teachers and higher levels of personnel. This interaction typically culminates in the growth of mutual respect among the various professional disciplines as well as curriculum changes beyond the mere adoption of new enrichment units of study.

m. Organization of the program heightens the need for the involvement of college level training centers and personnel. The need for continuing inservice training of teachers can be provided, in part, by colleges and their personnel. This relationship provides meaningful feedback for the colleges for substantial changes in their own teacher training curriculums.

n. The least successful aspect of these enrichment programs is that of evaluation. Much further study of advanced techniques for the evaluation of qualitatively different curriculum design is called for. Such evaluation as is attempted usually includes formal rating of student growth by teachers and demonstrators utilizing theoretical models such as Guilford's "Structure of Intellect Model". In a sense, this kind of program has been evaluated on the basis of as simple a maxim as "nothing succeeds like success." It has been assumed that the phenomenal dissemination and adoption of this program is proof enough to determine its utility, success, and durability. However, more formal evaluation techniques are clearly needed.

o. Such forms of evaluation as were utilized, such as ratings of students, self-ratings of teachers and observation and criticism of operating programs by higher level personnel, resulted in essentially positive findings. In these enrichment programs, students do appear to grow in subject matter competency and use higher level mental processes. Teachers do manifest more specialized skill both in their understanding of subject matter and their use of advanced techniques and processes. Classrooms do become radically altered in their structural configuration to include such innovations as study centers, functional pupil grouping, individual pupil project assignments, specialized study stations and logistic use of resource personnel in instruction.

p. Specifically, the operational goals, listed in part A, Section 3 of this enrichment report, were substantially realized during the project duration. The "goals for pupils" were directly measured with reference to "facility and use of higher level mental processes, and knowledge gained in prescribed areas of study." However, no direct measurement was made of "self-understanding and expression of individual talents or general growth in social-psychological maturity areas." However, the general consensus of involved teachers and supervisors was that growth and self-understanding and maturity could be assumed and was noted in a majority of individual cases.

The specific changes in teacher behavior which were promoted as a direct result of involvement in this project, have already been discussed. Of particular importance was the change in role from the teacher as "recipient and duplicator" to the role of "initiator, constructor, and demonstrator." The "goals for the demonstration center" were all substantially realized as witnessed by the actual products produced.

q. The ultimate success of development and export of the enrichment prototype was directly dependent upon the quality of the field consultant staff. While the successful aspect of the program already developed will continue to be utilized, it is apparent that no program of this scope can be fully realized or perpetuated without professional staff members working in demonstrational centers on a permanent basis.

D. Selected Discussion of Findings

This research and development project was never designed to be experimental in inception nor operation. The practical, material and demonstrational accomplishments of this project have already been implemented. The Los Angeles City School District was a direct beneficiary and will continue to operate and expand the enrichment program by utilizing the cadre of professional teachers and consultants which were discovered and utilized during this demonstration project. The films and filmstrip along with the curriculum materials will accomplish the task of establishing enrichment programs in new school districts through the direct dissemination of these explanatory materials.

However, certain questions remain unanswered such as: "Can an educational program, however well designed, perpetuate itself through the dissemination of materials alone?" or, "Will an educational program, however well conceived, continue to be adopted without adequate evaluation procedures built into it?" These two main problems, including questions concerning dissemination and evaluation, will color the following selected discussion of the findings. This discussion should uncover problem areas requiring further study and form the basis for the recommendations made in the next section.

1. Continued Use of Products. In order to assure continued promotion and dissemination of the fourteen teacher training films developed during this project, the Acme Film and Video Tape Laboratories of Hollywood, California was authorized to sell single films or an entire series at a price commensurate with production costs. This arrangement has proven mutually equitable to this point.

However, it has already been found that the films require further editing, and standard evaluation forms and guidelines need to be developed. Moreover, in order to effectively promote and distribute films, Acme Film Laboratories has already invested a considerable amount of money into advertising, general promotion and the production of preview and rental copies. As of

January, 1967, Acme Films reported an investment of over fifteen thousand dollars over and above the production costs already invested for the purposes of promotion and distribution.

In order to effectively and efficiently continue the distribution of the worthwhile products developed during this project, it is necessary for governmental agencies to consider the investment of modest amounts of money for the further refinement of these products. Continued dissemination of products is further complicated by the comparative inflexibility of existing governmental agencies and channels. For example, it has already been found that insufficient staff and funding prevent distribution of films and filmstrips through State Department of Education channels. No dissemination agency exists within the framework of this Department. Therefore, the sets of films in our possession had to be housed, on an "indefinite loan" basis, to universities willing to assume this responsibility through their own audio-visual depositories. Luckily, through negotiation, it was possible to find geographically feasible repositories for the two sets of films in the possession of the State Department of Education.

The main point of this discussion is that research and development projects cannot be guaranteed for posterity without prior study of the agency developing the developmental project. Such applications should include firm projections for potential promotion, dissemination and evaluation of products after the termination of the actual research and development contract.

2. Continued Use of Workshops and Consultant Services. As in the case of products from the project, there is no firm indication that prescribed dissemination services can be continued after the termination of this project. It has been shown that field consultant services form an essential basis for the effective distribution and eventual adoption of the enrichment program prototype by other school districts.

In California, Consultants in the Education of the Mentally Gifted will continue using and exploiting the products and prescribed services of this demonstration. A more efficient perpetuation of the goals of this demonstration might have been possible with the retention of at least one Education Research Project Consultant for a period of time after the termination of the project. To put it another way, this project contained no "phasing out" possibilities. The demonstrational aspects of the project ended dramatically with the cessation of services by the Education Research Project Consultants.

Perhaps official endorsements from the U. S. Office of Education verifying the need for specific promotional and demonstrational consultant services at state and county levels would be helpful. This discussion has emphasized the need for continuing specific demonstrational and promotional consultant services to guarantee the continued dissemination of important program products. Also, it has been shown that the mere physical distribution of guidelines, films, and other products is not sufficient to enable a prospective adopting school district to set up a program matching the original prototype. Intervening field consultant services are necessary to help the new district adjust the program prototype to its own local needs.

3. Theoretical Models and Program Validity. Earlier models for the explanation of learning process have been characterized by simplicity and subjected to considerable experimental research before being adapted to classroom learning operations. Traditionally, simple paradigms for research on teaching have been fashionable and useful. For example, the classical Pavlovian paradigm for the substitution of a new stimulus for an old one to evoke the same given response has served as a model for various behavioral approaches to learning.

The paradigms used in this enrichment demonstration have not been subject to exhaustive field research prior to their utilization for curriculum design. Therefore, the use of Guilford's "Structure of Intellect Model," for example, must be viewed as experimental and tentative. The use of these more complex paradigms have been justified by our project consultants on pragmatic as well as utilitarian grounds. To the extent that teacher comprehension of the theoretical model resulted in the development of higher levels of curriculum content capable of evoking higher level mental processes, it was possible to assume that the model possessed direct theoretical applicability.

However, since no systematic attempt was made to apply total models nor to assess total outcomes, it is not possible to claim program validity on the basis of adherence to the model in its totality. For example, in utilizing Guilford's "Structure of Intellect Model" it can be seen that the "Dimension of Operations" was focused upon at the expense of neglecting "contents and products." More useful research data might have been derived from this project had teachers been trained to observe the figural, symbolic, semantic, and behavioral contents utilized in the mental operations performed by students. Moreover, were the mental products predictable by deliberately pacing students through hierarchal mental operations?

4. The Evaluation Gap. It has already been shown that such evaluation as existed in this demonstration of enrichment was based upon practical and operational outcomes. To the extent that the use of newer theoretical models enable teachers to frame curriculum which was demonstrably more useful in the classroom in terms of evoking higher level mental processes, to this extent, the method was shown to be "successful." To the extent that teachers could be observed to modify their own classroom methodology and behavior, to this extent the inservice training programs were shown to be "successful". Great reliance was placed upon the teacher's capability to directly observe changes in pupil behavior and to note these changes sequentially and systematically in the case study. Simple comparison with prior anecdotal records enables an objective observer to make judgments concerning student growth. Unfortunately, the use of such practical and "common sense" methods tend to raise more theoretical questions than they answer.

For example, it has been demonstrated that the deliberate restructuring of curriculum to include stimulation of the higher mental processes may be used with groups of students other than gifted. What are the absolute limits of applicability? Specifically, can a teacher expect divergent production from a normal student? What are the cutoff points for expectancies in higher level mental operations in disparate groups of students? It is not sufficient to state that the gifted pupils participating in the new programs demonstrated capabilities for operating at divergent or evaluative levels of thinking. Perhaps they would have operated at these levels whether or not the program had been inaugurated. It is necessary to compare their higher level developments with developments in contrasting groups such as "able or normal" students.

A good part of the "evaluation gap" can be traced to the lack of standardized tools and measurements for the assessment of program outcomes for the gifted. In the absence of specialized instruments to measure behavioral, psychological, and intellectual changes in the gifted, we are called upon to rely heavily on instruments not constructed for this purpose. Our best possibility for measuring change in the gifted has been shown to be the teacher himself who, in this sense of the term, becomes the actual instrument for measuring student change.

Conceiving of the teacher himself as a measuring instrument, it is necessary to demonstrate reliability and certain types of validity. Can teachers be shown to arrive at similar and reliable ratings of student behavior and expressions? Is it possible to collect an inventory of key or insightful answers to questions which can enable the teacher to objectively judge whether or not a given student has made the transition from one mental operation to another?

In summary, the "evaluation gap" cannot be closed until more basic research is accomplished in the area of creating novel instruments for the direct measurement of behavioral, psychological and intellectual change in groups of students for whom no such measurements exist today. Until such instruments are available, it is necessary to validate the teacher himself as an instrument of measurement through use of reliable rating and observational techniques.

E. Conclusions and Recommendations

The following conclusions or outcomes seem warranted based upon the findings already reported as well as evaluation surveys of professional educators attending or adapting the demonstrational products of this project:

1. Conclusions

a. It is possible to integrate the traditional roles of "consultant-specialist" with that of "teacher-demonstrator" by means of specially designed semester-long inservice training sequences in order to, more or less, simultaneously invent, produce, try out, modify and disseminate new curriculum units.

b. As the result of amalgamating and integrating consultant and teacher roles, it has been shown that new educational programs may be promoted and disseminated by deliberately developing cadres of teacher demonstrators in an adopting school district to serve as promoters, demonstrators and disseminators of programs on an intradistrict basis. Specifically, within the framework of this demonstration three unique curriculums in scientific methodology, fine arts and creative expression in the literary arts were invented, tried out, refined and disseminated both within the Los Angeles City School Districts and out to several hundred other school districts.

c. As a byproduct of the personnel capabilities unleashed, series of films, a filmstrip and a number of guidelines for the utilization of newer theoretical models to the development of curriculum were developed and disseminated. These products will continue to be distributed, refined and evaluated by the agencies producing them. Thus, an ongoing practical service is now available in the form of concrete materials for school districts in and outside of California.

d. Significant attitudinal and behavioral changes on the part of teachers have been noted as a result of incorporating them into the process of program development. It has been observed by supervisors that involvement in program building results in increased competence, morale, initiative, and confidence in their school district on the part of teachers.

e. Adoption of an enrichment program prototype directly results in a thorough reassessment of the entire curriculum and current practices. The applicability of enrichment programs to the formation of enriched units for many types of students other than the gifted has been demonstrated. The inauguration of enrichment programs, therefore, represents a sort of educational catalyst which may be justified on much wider grounds than can other program prototypes for the gifted. The enrichment program prototype truly represents a "universal program model."

f. Efficient and effective utilization of staff talents is accomplished through use of the demonstration program design. Academic supervisors, resource personnel and a host of other specialists become directly involved in program development, refinement and modification. Interdisciplinary roles become better understood by teachers who themselves begin to play more crucial parts in the educational process. General role change is accommodated. Natural barriers to the dissemination of ideas and the sharing of talents are broken down. As a direct result of involvement in these programs, teachers begin to practice team teaching, classroom reorganization and "expert roles" in their own right.

g. By means of direct observation of students it is possible to conclude that observable growth occurred in the areas of special subject matter content, the use of higher level mental processes, and the personal utilization of individual talents through involvement of students in the enrichment program prototypes demonstrated.

h. It has been shown that phenomenal export of these enrichment programs resulted from the promotional activities of the project. Review of correspondence, rating forms and other information indicates that well over 80% of the observers at workshops and demonstrations directly incorporated concrete program aspects into their own educational programs. Wholesale adoption of this enrichment prototype was hampered only by the shortage of field consultant services. Thus, it may generally be concluded that this design of program development, demonstration and distribution was eminently effective, efficient and utilitarian.

2. Recommendations. The following selected recommendations are based upon the findings as well as informal reports from the professional staff involved in this enrichment program:

a. Special grants are needed, upon the initiation of the U. S. Office of Education, for the stimulation of further development and refinement of projects which are terminated. It has been shown that the films developed in this project require further editing and promotion. The pioneering work of the demonstration group included in this project should point toward many small, but crucial studies such as can be conducted at the master's or doctoral thesis level.

b. A new role of "regional field consultant" needs to be considered at state and national levels. It has been shown that this project ended abruptly terminating any possibility for follow through consultant services or for the continued export of these programs to new school district settings. Perhaps future projects should envision "phasing out" consultant services which would be maintained past the actual termination date of the contract itself.

c. It has been shown that much additional basic research needs to be accomplished in the area of applying newer theoretical models toward the direct construction of curriculum. For example, students' products need to be related, in an objective way, with the input of methodologies designed to alter their higher level mental functioning. It would be useful to assign a short term exploratory research grant for the expressed purpose of creating an inventory of the unanswered problems hampering the direct use of the compressed paradigms discussed in this project with their usefulness for practical curriculum construction and evaluation tasks.

d. Instrumentation for the direct measurement of behavioral, psychological and intellectual changes among the gifted are virtually non-existent. Basic research followed by the development of experimental tools for these purposes is clearly indicated. Current dubious practices which merely state observed growth in, for example, student achievement can usually be demonstrated to be statistically meaningless. Experimental use of higher level instruments at lower levels of schooling might be explored. What is probably needed is the invention and tryout of instruments which contain extreme ranges of performance. While awaiting standardized instruments for the measurement of changes in gifted students, it has already been recommended that more objective techniques be sought for teachers acting as raters.

e. Since enrichment programs have been shown to influence changes in the entire curriculum, it is necessary to consider selected inventories, bibliographies and lists of materials and tools for use by classroom teachers in the development of imaginative enrichment units. At the first writing, the handbook for this program contained bibliographies which were longer than the text itself. It was not possible to utilize the wealth of materials, books and equipment uncovered for use in these enrichment units. It might be useful for the State or Federal agency to deliberately sponsor extensive inventories of available tools, materials, instruments and miscellaneous practical items needed by teachers attempting to construct unique enrichment units for their classroom.

II. Acceleration Demonstration: Individual Placement Project

A. Explanation and Background

The individual placement project for the acceleration of children from the second to the fourth grade utilizing a special summer school session, and for accelerating children from the fifth to the seventh grade substituting a summer tutoring program in lieu of the sixth grade was first described for California in 1962. This method of pupil acceleration was developed independently from the work of Ripple and Klausmeier, although the programs are similar. At the time this program was included in the Cooperative Research Proposal, it was already established in several school districts in California for one year or more. (26, 32, 49)

A separate project entitled, "Individual Placement Project for Academically Talented Pupils in the Elementary Schools," was submitted by the California State Department of Education to the Commissioner of Education on August 15, 1962. This proposal allowed for a more ambitious experimental design including the use of control groups. Portions of the original individual placement project proposal are included in Appendix I of this report since it was used as the recommended outline for program setup and evaluation.

A publication entitled, Acceleration Programs for Intellectually Gifted Students, will become available from the California State Department of Education. This publication will thoroughly summarize research which preceded the project, outline administrative procedures for the establishment of the individual placement acceleration program, report results from the identification, placement, and counseling of gifted pupils into this type of acceleration program, summarize the curriculums developed for the special summer school sessions, highlight several individual case studies of students with varying degrees of success and failure in the program, evaluate the overall impact of these programs, and make recommendations for future programs.

This report will review administrative plans for this type of acceleration program, outline effective methodologies for the establishment and evaluation of acceleration programs, review special problems and summarize the recommendations for school districts contemplating establishment of this acceleration program in the future.

1. Summary of the Literature on Acceleration. A thorough review of the literature is contained in Chapter I: "Research Which Preceded the Project" of Acceleration Programs for Intellectually Gifted Students. A large body of research spanning forty years seems to warrant the following generalizations:

a. Most programs of acceleration, except simple grade skipping, may be considered safe techniques when buttressed with well-planned program designs and followed through with individual attention in the form of tutoring or counseling for accelerates. (52)

b. Acceleration programs should not be viewed as ends in themselves. Long-term goals such as early entrance to college with subsequent increased probability of attaining higher level degrees should motivate the student and teacher rather than mere competitive drives. (45)

c. More pupils could be included in acceleration type programs. Estimates range from two to ten percent of the pupil population with the typical researcher indicating a probable potential enrollment of 5 percent in acceleration programs. (31, 37)

d. The accelerate can be expected to equal or excel his grade placement peers, his mental age peers, and his unaccelerated chronological and mental age peers in achievement. (32, 37, 52)

e. Most findings indicate an unwillingness on the part of educators to recommend more than two years of acceleration prior to college. (8, 16, 26, 30, 31, 32, 37, 45, 52)

f. The form of acceleration in which special summer school sessions substitute for the third and/or the sixth grade, has been well established and studied through prior research. Extensive evaluation has indicated this practice to be an efficient and effective form of acceleration since it does not skip significant units of work and allows for smooth transition between grade levels. (26, 32, 49)

g. Recent work with acceleration type programs reject the view that they are monolithic program prototypes. Acceleration type programs must be amalgamated with other programs such as follow-up enrichment and tutoring services in the advanced grades, periodic counseling for pupils and parents, and opportunity for advanced placement at the high school and college levels also. (45)

h. Different proportions of girls and boys tend to be screened and placed in acceleration type programs. Perhaps due to teacher bias, more girls than boys are consistently chosen for this type of program. (26, 37)

2. General Outline of Individual Placement Program. The main missions for the demonstration district centers (Pasadena Unified and Ravenswood Elementary School Districts) included the following:

a. Select, train, and utilize effective professional staff members for the acceleration type program.

b. Adapt, revise, produce, and assess written guidelines for this type of program. Describe administrative procedures for program setup, and design methodologies for program and pupil evaluation.

c. Construct, validate through actual use of pupils, and demonstrate screening procedures, case study techniques, and forms. (48)

d. Develop appropriate curriculum patterns for the substitute third grade summer session. Prescribe supplemental curriculum for accelerating learning processes in first and second as well as fourth grades.

e. Develop evaluation techniques for assessing the overall worth of this acceleration program.

f. Physically demonstrate the summer school program to invited outside school personnel, disseminate guidelines and other materials to these visiting personnel, and share professional consultants with the new school districts for the efficient export and adoption of this program in other school districts.

Ten school districts in California practiced this kind of acceleration during the duration of the project. All varied the program design in significant ways. However, it is possible to describe a general outline for the individual placement program as follows:

a. Administrative preparation, at least one year before the first summer session, includes: distribution of program guidelines, initial screening of potential pupil accelerates, development of uniform methods of record keeping, use of case study forms and techniques, development of local forms such as parent approval forms, and the description and tryout of varying staff roles for the implementation of the acceleration program.

b. Modified educational activities in kindergarten through grade two are encouraged. Teachers systematically observe potentially talented students and provide them with individual advanced work.

c. Screening and identification of pupils prior to the substitute third grade summer program occurs. Academic evaluations include the collection of teacher opinions and objective ratings. Also, teachers supply valuable data about pupils' interests, attitudes, adjustment problems, maturity levels and specialized talents. Parental evaluations of their children are collected. A certification committee collects developmental, familial and social data. Thorough psychological evaluation ordinarily occurs in the middle of the second grade. Pupils' achievement levels, mental abilities, interest preferences, social maturity levels and personality functioning, are assessed by school psychologists and reported to a certification committee which determines the type of future placement for the child.

d. A six-week full-time summer school program substitutes for the third grade. Emphasis is placed upon skills development, however, enrichment activities in science, social science and the fine arts are ordinarily provided. Students constitute two distinct groups including: (1) probable accelerates, and (2) "for enrichment only."

e. Modification of the curriculum for grades four and five is minimal. The program focuses upon enlightening the attitudes of teachers toward the comparatively younger pupil. Consultation services are made available to the teacher, the parents of accelerates and the accelerates themselves. Enrichment activities are encouraged during and after school hours. Artificial limitations upon further acceleration of content are discouraged.

f. Continuing counseling services and periodic reevaluation of student achievement are implemented. Particular attention is paid to the possible need for another year of acceleration from fifth to seventh grade. Special summer programs, substituting for grade six, are arranged and include special projects for students.

g. At the junior high school level, special adjustment programs are advocated. Continuing evaluation of pupils on a yearly basis is encouraged. The carrying out of longitudinal studies on all accelerates is emphasized.

3. Objectives. The two main purposes for integrating demonstration of this type of acceleration within the framework of California Project Talent included: (1) the collection of a body of data to demonstrate that this type of acceleration is economical, simple and adaptable to most types of school districts and (2) to add to the already substantial body of research on acceleration indicating that this type of acceleration promotes pupil maturity and achievement without causing undesirable side effects. Thus, our objectives were both practical and experimental. (26, Appendix I)

The practical objectives of this demonstration have been largely realized. Multiple guidelines and curriculum designs have been produced, distributed and adopted by school districts other than the demonstration centers of Pasadena and Ravenswood. Certain specialized "export consultant services" have been utilized resulting in measurable attitudinal change on the part of school personnel and parents toward acceleration programs. Various forms for case studies of pupils and evaluation of programs have been developed. (44)

Unlike other program prototypes, it is impossible to dissociate the original experimental design from a responsible acceleration program. Every prospective accelerate requires a case study in depth accompanied by special provisions for evaluation, placement and followup. Moreover, every school district adopting this program must repeat its experimental aspects. For example, groups of accelerates should be compared with indigenous matched group populations in order to ascertain whether or not the program design is effective for a particular school district. The experimental objectives of this program include validation of the acceleration design in every adopting school district. (32, 45)

Also, individual pupil assessment and overall program evaluation are inseparable. The effectiveness of a given acceleration program is dependent upon continuing demonstration of personal, psychological and academic growth of accelerates. Therefore, the identification and case study of pupils becomes more than a program preliminary in acceleration programs. The case study becomes the foundation for overall evaluation of the effectiveness of the program. Development of extensive case study procedures, become strategic concerns and objectives for acceleration programs. (45, 48)

B. Methods: Program Design and Case Study

Among the districts practicing individual placement there were found wide variations in program design. This finding seemed to confirm the conclusion that this program could be adapted to different types of school districts and varying pupil populations. However, all of the affiliated districts agreed upon the need for a summer school session to substitute for the third grade.

1. Alternate Sequential Outlines for Individual Placement. Three patterns of program design emerged with shifting emphasis from enrichment to pure acceleration purposes. Certain districts (e.g., Ravenswood) emphasized the use of the summer school for enrichment opportunities and experiences not afforded during the regular school year; actual pupil acceleration came to be a secondary purpose for the summer school and determined during the actual summer school session.

Other districts (e.g., Pasadena) emerged with a developmental pattern equally emphasizing enrichment opportunities in the summer school with acceleration program components built into the second grade as well as the substitute third grade summer school.

Still other districts tended to view the substitute third grade summer school as a more or less "pure" opportunity for the acceleration of the pupils. This latter alternative appeared in districts in which pupils were drawn from a wide geographical area. Such pupils tended to be motivated by the competitive expectations of advanced fourth grade work.

Few school districts practiced actual acceleration at the sixth grade level. It became apparent that recent research, particularly that centering upon early entrance to school, emphasized the need for acceleration at lower grade levels. Moreover, the problems of social adjustment tended to mitigate against acceleration at the higher grade level.

Of course, the three approaches to acceleration through individual placement represent points on a continuum rather than three entirely discrete programs. Some "enrichment" occurs in the "pure" summer school acceleration program. Local conditions might necessitate varying amounts of "acceleration" or "enrichment" in the summer school.

These resultant variations of the individual placement program seemed to be related to philosophical concerns. The enrichment summer school concept flourished in districts emphasizing heterogeneous classroom grouping. Such districts have experienced higher than average amounts of controversy concerning pupil grouping, special benefits, or the ethical necessity for special programs.

The "purer" acceleration prototype tended to be adopted by districts which practiced strict grouping of students, had a comparatively high distribution of able students and existed in a community more tolerant of highly specialized programs.

The amalgamated program prototype, which proved to be the most popular, tended to be favored by larger urban school districts which have evolved a more eclectic educational philosophy. Such programs are usually associated with "cluster grouping" in the regular classroom as opposed to strict homogeneous grouping. These districts have staffs with widely varied outlooks and tend to cultivate more tolerant, open-minded attitudes toward any new program proposition.

Table 2-1 represents the basic outlines for the three alternate sequential patterns for individual pupil placement as practiced during the duration of this project.

Table 2-1

Alternate Sequential Patterns for Individual Pupil Identification, Placement and Programing

Grade	Enrichment	Enrichment With Acceleration	Acceleration
K	Individual pupil assignments encouraged. "Child study" by teachers advocated.	Screening begins. "Case study by psychologists in cooperation with teacher" advocated.	Screening begins, "Case study" more clinical
1	Enrichment in all subjects. Curriculum development committees organized.	Tentative accelerates noted. Advanced work encouraged Enrichment for all. Extensive inservice for teachers.	Advanced work
2	Screening for summer school. General enrichment for all.	Accelerates chosen. Advanced work assigned. Enrichment correlated for all groups of pupils.	Advanced work
(3) (Summer School)	Identification of Accelerates Enrichment in social studies, science for main group Advanced work for accelerates	Mixed group in summer school includes: "enrichment only, possible accelerate, and probable accelerate" Advanced work or enrichment as indicated.	Grade level achievement emphasized Skills areas assessed
4	Counseling, tutoring emphasized Enrichment continues	Final grade level assignments made with possibility for change later. Enrichment re-emphasized Counseling, tutoring available.	Advanced work Counseling Followup studies
5	Enrichment continues.	Continual reassessment of pupil placement. New opportunity for individual placement, to grade 7. Yearly summer school opportunities	Advanced work Another formal opportunity for acceleration
Overview:	General enrichment for all. Incidental individual advanced placement. Emphasis on general curriculum upgrading during regular school year. Regular teacher, curriculum consultants are focal points of the program.	Best synthesized developmental program. Equal emphases upon: pupil study, regular grade curriculum upgrading and special curriculum for summer school. Differential diagnosis of pupils required.	Program achievement oriented Simplest plan for interdistrict summer school Summer school viewed as "third grade substitute" More homogenous pupil population

While all of these program variations emphasized the individual study of pupils, they varied according to the primary sources of data about pupil behavior. Programs with more of an "enrichment" emphasis, utilized the teacher more fully for developing case study materials.

The "purer" acceleration programs tended to utilize school psychologists in a more dominant role. Such case studies tended to incorporate more psychometric, projective and social behavioral information based upon objective observation of the pupil by outside professional personnel.

Though terminology varies, all program variations included some sort of differential pupil diagnosis. In general, "potential" and "probable" accelerates were informed of their ratings before attendance at summer school. Pupils involved in the program for enrichment purposes only were also informed of their status. As might be expected, most problems occurred with the students classified as "probable or possible accelerates." Hence, such a classification tended to be dropped and pupils were classified as either "enrichment only" or "accelerates."

Special attention should be paid by prospective adopters of this acceleration program to the needs for specialized staff inservice training. The extent and nature of the inservice training would depend, of course, upon the variation of program design decided upon. Pure summer school acceleration programs require a minimum of inservice training except for the special summer school teacher and the school psychologist responsible for the followup of students. Amalgamated enrichment and acceleration summer school programs require maximal staff inservice training at all levels since development of the program has implications for the entire school curriculum and grade articulation.

Following is an outline of the six kinds of inservice training observed in districts practicing individual placement:

a. Orientation meetings

- for entire school staff
- discussion of acceleration from educational, philosophical, social and personal points of view

- answering questions

- assessing prejudice for this type of program

- may include actual formal debate of ethical issues

- usually held at beginning and end of year with opportunity for seminars

b. Inservice training for special summer school teacher

- needs released time for preparation of special curriculum and follow-through to fourth grade teacher

- counseling experience helpful

- familiarity with modern testing techniques imperative

- more rigorous knowledge of and experience of child study required

- knowledgeability of and comfort with self-evaluation and other teacher evaluation techniques useful

c. Curriculum development meetings

- usually monthly or bimonthly for teachers in K-2 and grades 4-5

- standards for advanced work must be developed

- school grading standards continually reassessed and standardized

- correlation of units of enrichment with advanced work needed

- smooth sequential articulation of grade level work from teacher to teacher usually leads to modified team teaching episodes

d. General inservice training

- all staff familiarized with child study forms, rating techniques, criteria for advanced work
- minimum grading and "advanced standing" criteria developed, enforced and revised where indicated
- pooling of experiential, academic and psychometric data and observations encouraged
- leading to more uniform standards from classroom to classroom and the availability of local norms

e. Intensive special training in child study

- necessary for second, third and fourth grade teachers
- objective observation and rating of actual behavior is advocated
- teachers encouraged to invent, modify and use indigenous forms, reliability of behavioral ratings required
- multiple observation of pupil behavior advocated

f. Consultation time

- available for all teachers, parents and pupils with school psychologist
- availability of experienced curriculum designers for consultation also provided

2. Two Case Study Approaches. An outline with accompanying forms for the identification and case study of mentally gifted pupils was developed by the Project Talent staff during 1963. An abridged version of this case study form constitutes Appendix II. This case study outline was developed for the screening, identification, placement and followup of pupils selected as potential accelerates. However, the general usefulness of these forms led to their adoption by the other program areas. Virtually all of the case study forms were used, with appropriate local modifications, for the screening

and selection of potential accelerates. In general, a much shortened version of this case study was used in the enrichment and special class program prototypes.

As these case study forms were utilized in school districts with disparate philosophies, two distinct approaches to the case study and selection of accelerates resulted. While single phrases do not convey the difference between these two approaches, perhaps the terms "anecdotal" versus "objective" case study approaches could be used to describe the divergent approaches used by pupil personnel services workers in different school districts. Study of Appendix II reveals that the Project staff advocated a case study approach midway between the subjective and objective alternatives. While thorough anecdotal notes were welcomed, teachers were encouraged to objectify their ratings of pupils through the use of local norms. Pupil comparisons included as much objective psychometric and sociometric data as possible.

Table 2-2 represents an attempt to summarize some of the contrasts noted between the anecdotal and objective case study approaches.

TABLE 2-2

Some Observed Contrasts between "Anecdotal" and "Objective" Case Study Approaches

Anecdotal	Objective
Personal data highlighted	Group data comparisons made
Subjective interpretations welcomed	Subjective judgment discouraged
Standards vary	Standards firm
Accelerates vary in quality	Uniform quality of accelerates
Diminished predictability for success	Predicability demanded
Teacher ratings given priority	Test data, psychometric data given priority
Adjust program to pupil	Adjust pupil to program
Individual accommodation sought	Program efficiency sought

Anecdotal	Objective
Expensive of professional time	Efficient, "scientific"
Unique procedures tolerated	Uniformity required
Reliance on judgment	Reliance on prescribed standards

The anecdotal case study approach necessitated considerable inservice training in child study for teachers. Variability among pupil characteristics was inclined to be better tolerated or excused depending upon the interpretation. Such criteria as "good reader, writes well or well accepted by his peers" tended to sway judgment toward acceleration rather than high scores on intelligence tests, achievement tests or unusual maturational characteristics. Anecdotal records tended to become voluminous. Would future teachers read and interpret such a store of untabluated information?

The anecdotal case study approach lended itself to more freedom for teacher expression and resulted in more qualitative descriptions of pupil behavior and personality functioning. However, these interpretations could be contradictory and framed in interdisciplinary terminology. Also, inaccurate descriptions of pupil behavior or projected teacher bias could become part of an unchallenged record.

Since the anecdotal approach depended upon more teacher contact with the pupil, it was possible to design more individual pupil projects. The anecdotal approach, when coordinated by professional personnel with training in the techniques of observation, resulted in more integration of the teaching, counseling and pupil assessment components of the educational process.

By contrast, the objective case study approach tended to place more reliance upon the judgments of psychologists whose judgments, in turn, were highly flavored by psychometric data. This approach tended to be more "authoritarian" and led to exaggerated "black and white" decisions concerning acceleration. Also the counseling, teaching and psychological roles tended to remain autonomous.

3. Patterns of Curriculum Construction. It has been shown that the districts practicing individual placement used different alternative sequential patterns for pupil selection and programming. Districts emphasizing general enrichment tended to

add qualitatively different units of work in all subject matter areas from kindergarten through grade six. In the enrichment type of program, the special third and sixth grade summer school sessions were articulated with the general scheme of enrichment practiced by the district throughout the K-6 sequence. Emphasis was not placed upon advanced work per se.

Districts attempting to amalgamate the concept of "enrichment" with that of "acceleration" tended to construct summer sessions for the third and sixth grades which might be viewed as separate grade level experiences. They tended to utilize theoretical models for their curriculum construction. Program content tended to be subordinated to the theoretical goals toward which students were being developed. In these programs, higher level mental processes such as thinking or problem solving became primary goals. Specific subject matter content came to be viewed as the tool through which the student could develop these higher level cognitive capabilities.

Districts practicing "a pure acceleration summer school" tended to de-emphasize theoretical models for curriculum construction and focus upon the attainment of specific standards or the proven acquisition of given units of advanced work. Hence, academic standards tended to loom more prominently in the pure acceleration programs.

Of course, a given district's stress upon enrichment or advanced work during the summer school session, depended upon its overall philosophy of education. Perhaps it is noteworthy that even districts with philosophies of education essentially hostile to the concept of acceleration, were still able to practice "individual placement" in the context of an enrichment oriented summer school. Even in these enrichment oriented situations, the professional staff still needed to consider overall practical or operational goals for the pupil to be accelerated. Some of the operational goals agreed upon by all districts practicing advanced placement included the following:

a. Positive professional attitudes toward acceleration must be encouraged in all teachers.

b. Curriculum sequences should be arranged for smooth and logical transition among grade levels. Teachers receiving accelerates must be oriented to preceding work and articulate their efforts with succeeding teachers.

c. Minimal pupil proficiency in basic subject matter requirements must be verified through tests, examinations and interviews. The acceleration of unprepared pupils cannot be tolerated.

d. The curriculum should contain all aspects of the content normally covered in the accelerated grades. This work may be condensed by a focus upon capability to perform as opposed to extended units of work.

e. The student's abilities to perform (e.g., solve new problems, write legibly, express himself coherently) are considered to have high priority. Student performance is viewed as primary evidence of program success.

f. Social, emotional and psychological adaptability to more sophisticated surroundings must be assessed in addition to academic progress. Orientation and counseling units need to be considered as part of an accelerate's program.

g. Acceleration type programs are generally inadvisable for pupils possessing radically different attitudes, insecurities, or tendencies toward autonomous creative behavior.

h. Accelerates, even when placed in advanced grades, should be expected to require still higher grade level assignments.

The school districts which have established programs in individual placement have been typified as (1) enrichment oriented, (2) enrichment with acceleration oriented, and (3) pure acceleration oriented. Each district evolved a unique curriculum sequence for the summer school in keeping with its unique philosophy. However, it is useful to contrast the educational goals of districts emphasizing enrichment with those of districts emphasizing a purer form of acceleration.

Table 2-3 attempts to form the basis for understanding the approaches to curriculum construction followed by districts motivated by goals of "pupil enrichment" as contrasted with those districts aiming toward "pupil advancement." The educational goals of pupils, teachers and administrators contained in Table 2-3 might be viewed as extreme ends of continua. For example, "teacher interaction" versus "individual teacher control" may be viewed as two diverse approaches to the teaching act. It is doubtful that any of the districts studied practiced an absolute form of team teaching or isolated individual classroom autocracy. However, the districts stressing overall curriculum enrichment advocated and supported co-operative teacher endeavors whereas the districts practicing acceleration in the summer school tended to maintain more autonomous and authoritarian grade level classroom controls.

Table 2-3

Differing Educational Goals of Districts Emphasizing Enrichment Or Acceleration in Summer School

	Enrichment	Acceleration
Pupils;	Development of higher level mental processes Universal subject matter exposure. Summer curriculum heavy in "social studies, literature". Socio-psychological needs of students deemed most important. "Creative self-direction" nurtured in pupil. Advanced work incidental to "total growth".	Mastery of advanced content. Subject matter in "skills" given priority. Summer work in arithmetic, reading, writing. Academic achievement deemed important. "Scholarliness, study habits, self-discipline". Advancement viewed as end in itself.
Teachers;	Utilize theoretical models for curriculum construction. Counsel pupils toward "maturity, creativity, self-expression". Conscious of "higher goals of educational leaders". Teacher "interaction" (e.g., "team-teaching") suggested.	Serial accomplishment of advanced units of work. Counsel pupils toward discipline, achievement, work habits. Responsive to parental demands for achievement. Individual teacher control suggested.
Administrators;	District-wide program articulation, coordination stressed. "Child-centered" image sought for school. Testing programs relegated to minor status. Public relations stress "innovation, progression". Contests, comparisons, competition discouraged.	Grade level identity sharp. Academic standards, uniform grading. Tests equated with evaluation of school. "Traditional" image cultivated. Student awards, achievement advertised.
Overview;	"Total pupil growth" nurtured; process of education considered more important than content; quality over quantity; cooperative efforts encouraged; evaluation difficult, tends to be rationalized as a "future concern"; although "liberal" at first glance, conformity with stereotyped attitudes as "innovation, cooperation" demanded	Pupil advancement through competitive processes encouraged; concrete evidence of pupil progress demanded; standards maintained strictly; programs closer to public expectation; subject matter central concern.

Part I of Appendix III summarizes instructions given to school districts in 1962 which emphasized a more or less "pure" form of acceleration in the summer school. Part 2 of Appendix III outlines the curriculum for a pilot summer school session held in conjunction with a teacher workshop. While maintaining many of the recommendations for achievement, it builds in enrichment units, particularly in social science and science, placing this program in the category of "enrichment with acceleration possibility." Again, it must be stressed that all ten districts practicing advanced placement utilized a unique curriculum.

In brief, districts practicing pure acceleration structured the summer school day into appropriate subject matter offerings, stressed advanced skills, proficiency in reading, writing, arithmetical and methodological skills, utilized considerable academic and psychometric evaluation devices, prescribed individual pupil work in subject matter or skills areas deemed to be comparatively weak, and counseled pupils out of the program when they did not match prescribed standards.

By contrast, summer schools devoted to enrichment with incidental acceleration possibilities, built subject matter content in the social sciences and sciences particularly, prescribed advanced work only at the expressed request of the pupil, encouraged individual pupil projects, viewed program and pupil evaluation as a secondary task, counseled pupils to remain in the summer school program even when prospects for acceleration were nil, and attempted to cause pupils to utilize higher level cognitive processes and scientific methodologies.

4. Evaluation Designs. The concept of acceleration called "individual placement" contains a built-in assumption that periodic and systematic evaluation of accelerates will occur. Thorough individual evaluation of every potential accelerate precedes his involvement in an actual summer school acceleration program. During the summer school session, additional testing andteacher ratings form the evaluative basis for his acceleration to the next grade. Periodic followup, in the form of planned counseling interviews, followup achievement testing, and, where indicated, individual reevaluation, continue the unbroken sequence of individual student evaluation. The pooling of these data forms the basis for an evaluation of the overall success of an acceleration program. Clearly, progressive achievement beyond peer grade placement expectation coupled with good adjustment to the higher grade level constitute the basic evidences for the success of the acceleration program. (Appendix I, 26, 32, 49)

No other program prototype offers more straightforward evidence for program success. In fact, indices of program success are sometimes overlooked because of their basically practical nature. A pupil who succeeds in competing well with older grade level peers as witnessed by his high grades and generally high morale, provides primary "proof" of the success of the acceleration program. (52, 62)

On the other hand, obsessive concern with overly detailed studies of pupils may lead to anxiety, apprehension and self-doubt on the part of pupils, parents and teachers. Information should be collected to answer fairly circumscribed questions. For example, the main concern of an acceleration program is to place the student at a higher academic level. The initial screening and evaluation of pupils, therefore, should stress the capability of the student to meet minimum requirements in every specific. Each accelerate represents an individualistic configuration of psychological, social and academic potentialities. Skilled psychologists must help to determine the extent to which minor deficits are more than offset by clear-cut compensatory assets on the part of the pupil. (45, 48)

Thus, virtually all evaluations of acceleration programs were based upon indices of pupil success in advanced grades. Thorough followup of individual pupils can demonstrate general as well as specific areas of strengths and weaknesses. Pooling of these data from individual pupils reveals trends in curricular strengths and weaknesses which may be appropriately modified or remedied. For example, one participating school district discovered significantly lower scoring on arithmetic achievement. This revelation had to be interpreted in the light of other areas of academic achievement which scored, predictably, above criterion groups. This information coupled with an analysis of first, second and third grade arithmetic curriculum enabled the district to revise their arithmetic program in such a way as to compensate for this deficit in the following year. Since the design for evaluation is an integral part of the individual placement program, teachers constantly review both individual and collective data on accelerates in order to determine the feasibility for acceleration in the first instance and the need for supplemental work in the second instance.

Systematic use of screening, rating and followup forms is essential for the success of this program. Therefore, it is strongly recommended that a person with psychological and research background coordinate the sequences of: placement, follow-up interviews, and teacher and parent conferences. (Appendix II, 48)

In general, the school psychologist is responsible for collecting seven types of data including:

a. Academic grades and ratings

b. General achievement scores from standardized tests

c. General intelligence scores from standardized mental ability tests

d. Indications of student interests from tests, interviews and teacher ratings

e. Personality assessments utilizing psychological interviews, projective techniques and professional ratings

f. Estimates of social maturity from teacher and parent ratings and sociometric techniques

g. Indications of satisfaction from teacher, parent and pupil rating forms

The timetable for the collection of these data may be flexible. However, it is assumed that a basic case study prior to actual third grade acceleration would include measurements from all seven types of data listed. (Appendix I, 26, 45, 48)

The evaluation process, in addition to its benefits for pupils and total district programs, may also be justified on the basis of its contributions to general professional growth. As the rating forms are checked for content and reliability, teachers learn about the construction of norms, the meaning of "validity and reliability" and the general nature of measurement. As teachers use rating forms, psychometric scores and psychologists' reports for accelerates, they begin to realize the usefulness of these devices for general understanding of all pupils.

The preceding statements notwithstanding, the impression should not be left that total evaluation of this program is dependent upon individual and pooled data describing pupils. Administrative ratings, teacher ratings, subjective evaluations and other sorts of evaluation are necessary. To insure more feedback for the general evaluation of tools of measurement, curriculum, classroom rapport, and general program design, communication among teachers, parents and pupils is essential.

Table 2-4 illustrates the generalized scheme of pupil evaluation upon which most program evaluation was based. Table 2-4 traces the minimal procedures used in grades K-6 as well as indicating the measures, comparisons and expected results looked for.

Many of the measurements listed in the second column of Table 2-4 will be found in Appendix II. It is assumed that these measures are administered by appropriate personnel. For example, individual tests would be administered and interpreted by appropriate psychological personnel. It is further assumed that periodic meetings of teachers and guidance personnel accompany all of the procedural administrations of tests, rating forms and analyses.

It was recommended that all districts practicing individual placement select and follow matched groups of gifted non-accelerates. Of course, this was easier to accomplish in large districts which, in general, followed this recommendation. Several large districts elaborated upon this recommendation by following such appropriate groups as "children who were merely skipped over the third grade and not attending summer school," or "groups of potential or recommended accelerates who for reasons of health, social maladjustment or other reasons were not accelerated." The "expected results" column of Table 2-4 is based upon a study of the raw data collected from the districts practicing individual placement and, therefore, represents "findings" as well as describing the typical evaluation design used by these districts. (Appendix I, 26)

TABLE 2-4

Generalized Scheme of Pupil Evaluation During Individual Placement Programs

Procedure	Measurements	Comparisons with	Expected Results
K- Screening: Teacher Referral	Screening Form Referral Form Cumulative Folder Data	Age Peers	Accelerates excel all measures
		Other Gifted	Accelerates equal most measures
1- Teacher Ratings Individual Tests Case Study	Pupil Rating Form Grades Stanford-Binet, WISC Background, Interests Aspirations, Social information, Psychometrics	Age Peers	Accelerates excel all measures
		Other Gifted	Accelerates equal most measures (Excel in social, emotional ratings)
2- Teacher Ratings Group Testing Sociometric Ratings	Pupil Rating Forms, Grades, Achievement: all areas Mental Ability Class Sociogram	Age Peers	Accelerates excel all measures
		Other Gifted	Accelerates excel most measures
		Matched Non-accelerates	Accelerates equal most measures
3- Teacher Recommendations Parent Ratings Subject matter Exams	Pupil Rating Form Pupil Rating Form Arithmetic, reading, spelling, exams	Peer Accelerates	Essentially equal
4- Pupil Ratings Group Testing Parent Ratings Teacher Ratings	Self Rating Form Achievement: all areas Pupil Rating Form Grades	Older Classmates	Accelerates equal or excel all measures
		Matched Non-accelerates	Accelerates excel academic measures
		Peer Accelerates	Essentially equal
5- Group Testing Teacher Ratings	Achievement: all areas Grades, Pupil Rating Form	Older Classmates	Accelerates begin to excel most measures
		Matched Non-Accelerates	Accelerates begin to excel most measures
		Peer Accelerates	Essentially equal
6- Group Testing Teacher Ratings	Achievement: all areas Grades, Pupil Rating Form	Older Classmates	Accelerates excel most measures
		Matched Non-Accelerates	Accelerates excel most measures
		Peer Accelerates	Essentially equal

Overall evaluation of this program prototype included five general areas of analysis including:

a. Actuarial - Total number of students involved in programs was compared with successful accelerations, "staying ability" of accelerates by sixth grade was assessed.

b. Usefulness - Acceleration programs should fulfill objectives of "economy, efficiency, pupil satisfaction, administrative facility and advanced utilization of student potentials."

c. Problems - Inventories were made of chronic, unsolved problems, cultural attitudes and educational processes of acceleration.

d. Flexibility - Program prototype should be adapted to differing philosophical, geographical and administrative demands.

e. Field Services - Estimates were made of value of consultant services. The most effective field services for this prototype were analyzed.

C. Results

1. General Findings. The feasibility, economy, simplicity and adaptability of acceleration by individual placement into advanced grades during summer school were substantially demonstrated during the three and one-half years of this project. Also, the second main objective of this study was implemented by collecting a substantial body of data describing accelerates.

The adequacy of this type of program was demonstrated by its adaptation to varying school district organizations in widely scattered geographical locations. The two demonstration centers represented different types of school districts: Pasadena Unified is an urban unified school district with a cosmopolitan population; Ravenswood Elementary is a large elementary school district in a culturally different urban environment with a population changing toward the lower end of the socio-economic scale.

Eight other school districts successfully practiced the individual placement program by adopting the guidelines developed by Pasadena, Ravenswood and the California State Department of Education. These districts included large urban unified, urban elementary, and rural elementary school districts representing varied geographical, cultural, social, political and economic surroundings.

During the formulative stages of this program, when guidelines were unavailable, the urban unified school districts were better able to establish and operate this type of program. However, once guidelines had been developed, small rural school districts could adopt this type of program.

It should be noted that elementary school districts were at a disadvantage due to a traditional lack of emphasis upon guidance services. However, once elementary school districts became accustomed to the need for adequate guidance services, these services tended to be generally adopted for the school system, resulting in considerable benefits for the rest of the pupil population.

During this project, Pasadena conducted four summer schools and Ravenswood conducted three. Among the eight cooperating districts, most conducted three, some two and one district conducted only one summer school. Most of the summer school sessions were substitute third grades, although two of the districts did accelerate children at the fifth and sixth grade levels on an individual basis. However, since the two demonstration districts did not practice fifth or sixth grade acceleration, this study will make no analysis of these higher level grade placement results.

Thorough analysis of case study data was conducted for the two demonstration districts which, combined, accelerated approximately 220 pupils during this project. Approximately 300 pupils were accelerated among the other cooperating school districts during the period 1962-66. Since both demonstration and cooperating school districts utilized the recommended case study forms and followed the guidelines for the establishment and evaluation of the individual placement program, the generalizations made in this section reflect data collected from all 522 accelerated pupils.

The following generalizations are based upon study of the data collected during the period 1962-1966 and utilizing reports from the two demonstration centers plus eight cooperating school districts:

a. Most accelerates continued to perform at high academic levels when placed in advanced grades. In addition, psychological reports indicated that their placement into advanced grades was better suited to their social, emotional and academic needs than was their placement with chronological peers.

Among 522 actual accelerates, only nine have been reported to have "serious problems" subsequent to their placement at the higher grade. In all of these cases, questions concerning the advisability of their advanced placement was raised during case study sessions; they were accelerated in view of what seemed to be "compensatory factors."

b. The strategic feature of this program was a systematic program of pupil personnel services commencing at the kindergarten level and continuing through the entire grade span.

c. Dedicated cooperation and open communication between guidance and instructional staffs was essential for the efficient operation of this program. Teachers and psychologists all used "clinical approaches" for the analysis of each child. Case studies contained interpretations by psychologists, teachers and parents.

d. The program was not isolated to the substitute grade summer school. Teachers at every grade level were oriented to the purposes, procedures and evaluation studies used for the successful operation of the program.

Any teacher may refer potential accelerates from time to time and should be thoroughly acquainted with referral and case study procedures. The program operated more efficiently when modifications are made in the curriculums of K and grades 1-2 as well as grades 4-6.

e. This program proved to be a stimulant for extended use of school facilities during the summer. For example, several districts established one substitute third grade summer school class during the first year of operation and by the second or third year of operation had expanded the summer school operation to include enrichment course work at most grade levels. Once the notion of summer school attendance was established, it could be expanded to include other grade levels and purposes.

Also, an interesting symbiotic relationship developed between the dual philosophical intentions of "enrichment" and "acceleration". Most districts found that the two standpoints were not mutually exclusive. Enrichment might have been the main goal of the summer school with acceleration the secondary purpose.

f. Standardized forms, instruments and rating scales, administered at periodic intervals, were required. Since different localities vary according to the professional preparation of teachers as well as the intellectual and cultural levels of their community, all recommended forms, instruments and rating scales should be standardized for local populations.

g. Special programs coupled with intensive case study techniques tended to highlight differences among the gifted pupils chosen. Thus, the summer school teacher may have perceived the range of individual abilities to be even wider than that found in a regular classroom.

h. As safeguards for both the security of the program and the protection of the individual pupil, advanced placement standards were established, and enforced.

As minimal standards, most districts reported enforcement of the following standards for accelerates:

- mental ability, estimated in the upper five percent of the general population, with special requirements for those scoring below an I.Q. level of 130
- high academic achievement in all skill areas, and selected subject areas placing the student in the upper five percent of his peer group population
- school grades at "B" level or higher with any exceptions thoroughly diagnosed and remedied
- social and emotional adjustment at "normal" or higher levels of maturity
- stature, health and physical characteristics at average levels of performance or higher with few exceptions made for health or coordinational deficiencies
- personal commitment on the part of the pupil as determined by personal, motivational, interest and attitudinal orientations.

i. Establishment of this program was preceded by an assessment of the attitudinal climate for acceleration. Where strong biases among professional staff members were found, establishment of this program needed to be postponed.

j. Parent education, as well as their involvement in decision making and case study procedures was required for success of acceleration programs. "Involvement" meant actual attendance of parents at educational meetings in which acceleration was defended, described, and evaluated.

2. Demonstration and Dissemination. Actual demonstration of the summer school program could not begin until the demonstrating districts had developed firm guidelines for program organization, screened and placed a body of pupils into an actual program and advertised their willingness to invite interested extra district personnel to observe the program and take away materials for use in their own districts. By the summer of 1963 the programs in the Pasadena, Ravenswood, Fresno and Cypress School Districts were well structured enough to invite outside personnel to observe. In terms of actual numbers of observers, the districts coordinating their efforts with a teacher workshop conducted by a local state college, proved to be most successful.

By 1964, a concerted effort was made to arrange teacher workshops in conjunction with summer school demonstrations. The cooperating school district typically offered course work for gifted pupils in grades other than the substitute third grade and the college sponsored workshop for teachers typically offered a varied sequence of topics beyond merely a study of acceleration. The following cooperative teacher workshops and summer schools for gifted pupils were held during the period 1964-1966.

a. Pasadena Unified School District (two or more classes for substitute third grade acceleration) in conjunction with workshop for teachers at California State College at Los Angeles (during a typical summer over 100 teachers, counselors, and administrators would observe and take away materials describing the acceleration program).

b. Fresno Unified School District (offering one or more classes for third grade acceleration plus enrichment classes for gifted pupils in grades 4-6) in cooperation with a teacher workshop sponsored by Fresno State College.

c. San Juan Unified School District (holding classes for acceleration, enrichment, and counseling seminars at the junior high level) in cosponsorship with Fresno State College) this workshop was also cosponsored by California Project Talent and included educators from California and other western states).

Thus, the individual placement program had a distinct "seeding effect" not only on the promotion of other summer school programs for pupils, but also for the logical establishment of correlated workshops for teachers. (Appendix III)

The overall impact of demonstrating summer school acceleration programs is difficult to assess in purely quantitative terms. From a qualitative point of view, most of the educators who observed the acceleration program went away with modified attitudes concerning acceleration. Correspondence from administrators indicated that they had returned to their district and inaugurated policy changes with reference to acceleration. They may not have adopted the concept of utilizing the summer school, but may have experimented with a logically related procedure such as combining grades.

Within the rigid criterion of actual cases of full program export to another district, this program prototype would have to be considered a success. From two demonstration centers in 1963, ten school districts were known to be practicing individual placement during the summer school of 1966. At least twenty other school districts in California were contemplating possible experimentation with this procedure by 1967. Unfortunately, it is doubtful many of these school districts will actually make the commitment for this program without specific outside consultant services. Consultant services for this program appear to be different in quality than the kinds of consultant services called for in enrichment, special class or counseling programs. In the final analysis, acceleration programs need to be "sold" as a concept. Consequently, the consultant attempting to export these programs to other school districts tends to be more in the role of a "merchandiser." Once a district is "sold" on the feasibility, flexibility, economy and adaptability of this kind of program, they can usually implement and evaluate the program on their own.

Dissemination of individual placement program case study forms and guidelines have been made to school district superintendents in California and will be available for out-of-state school districts through order procedures with the California State Department of Education. While the guidelines developed during the cooperative school district--state college workshops have been distributed, it is necessary to note that none of these workshops will be perpetuated by their own momentum. Unless State or county level consultants deliberately organize such cooperative offerings, they will not be perpetuated. This finding seriously challenges the oversimplified concept of "program seeding". During the duration of this project, the demonstrations and summer workshops were established and evaluated because State level personnel worked out all of the difficult theoretical and practical arrangements for these activities. Neither the school districts nor the State colleges by themselves appear to have the resources nor the personnel to conduct interagency cooperative efforts. Six of the ten districts which offered individual placement programs through the summer of 1966, plan to offer similar programs in subsequent summers. Furthermore, considerable intradistrict growth of the program occurred in the larger districts. For example, the program in Pasadena began in 1963, with two cooperating elementary schools. By the summer of 1966 ten elementary schools sent potential accelerates. The projection for subsequent years is that most elementary schools in the district will probably be sending potential accelerates to the program in future years. Similar patterns of growth were observed in the other two large unified districts offering the individual placement program. Moreover, as principals became accustomed to the idea of special programs for gifted pupils, they began to seek ways for inaugurating special supplemental programs during the school year as well as varying types of programs during subsequent summer schools.

Perhaps one of the most important assets of this type of program is its built-in need for regularity. In order for the program to operate, inservice training, systematic screening of students, special summer school curriculums, sundry standardized forms, and a timetable for periodic follow-up procedures must be planned and implemented. Thus, the implications of this program affect most of the staff members within a school. Utilization of the techniques, procedures and new developments, once they are shown to be effective, can be generalized to the whole pupil population. Hence, schools adopting this type of program tend to become conscious of the need for guidance services, child study procedures, mechanisms for making curriculum more flexible and the need for continuing dialogue and training for inservice teachers.

Summarizing the demonstrational and disseminational aspects of this program, it has been shown that acceleration programs can be effectively demonstrated and exported to other school districts. Furthermore, virtually all accelerates are successful in the summer programs. The usefulness, flexibility and reliability of this program has been well proven. In addition, it was found to be highly adaptable. Variations of this type of acceleration with summer school enrichment programs have been discussed.

3. Pupil Success in Program. The final evaluation of the successfulness of an acceleration program must be longitudinal. In the final analysis the student's smooth transition to higher grade levels, his persistent motivation toward higher level achievement,

and his attainment of higher education with professional status will bear testimony to the wisdom of an acceleration. Of course, no firm longitudinal predictions are possible in this particular study. However, based upon recent similar research it is possible to arrive at a reasonably safe prognosis of successful advanced grade adjustment by our sample of accelerates.

Table 2-5 summarizes the total number of pupils who were accelerated to an advanced grade during the period 1962-66 in school districts either acting as demonstration centers or cooperating in this project. It must be emphasized that this survey was approximate and informal as concerns figures from the cooperating school districts. This information was gathered through telephone calls, correspondence and field trip visits to cooperating school districts.

On the other hand, problems in this type of program are of such a dramatic nature that they rarely go undetected. Therefore, the figures contained in Table 2-5, though approximate, may be viewed as a fairly accurate assessment of the degree to which this acceleration program succeeded in accelerating students smoothly from grade two to four without serious incident. The "Percent of Problems column" represents the sum of "Problems Reported" and "Placement Questioned" columns. Only the "Placement Questioned" column represents problems encountered of a serious enough nature to require thinking about the possibility of "deacceleration". Thus, the overall placement of these accelerates to higher grade levels can be seen to be highly successful.

TABLE 2-5

Number of Successful Accelerates and Problems Reported From 10 California School Districts Practicing Individual Placement, 1962-1966

Type of District	No.	Urban	Suburban	Rural	No. of Accelerates 1962-66	Problems[1] Reported	Placement[2] Questioned	Percent of Problems
Large Unified*	3	2	1		282	10	4	.049
Small Unified**	1	1			29	1	0	.034
Large Elementary*	2		2		86	11	3	.151
Small Elementary**	4		2	2	105	6	2	.076
Totals	10	3	5	2	522	25	9	.065

*"Large" means total district student population of 10,000 or more

**"Small" means total district student population of 9,999 or fewer

[1] One or more reports of dissatisfaction, maladjustment or low achievement from teacher, parent or pupil with most ratings "good" or better

[2] Overall 4th or 5th grade evaluation of "less than satisfactory"

It would be impossible to express the extraordinarily varied degrees of success of accelerates in a summarized form such as Table 2-5. The large majority of accelerates made such smooth adjustments to the advanced grades, that within a matter of weeks they had found new friends, became engrossed in their new work and came to be perceived as a natural part of the higher level classroom by the teacher. A majority of fourth grade teachers indicated that, in their judgment after at least one semester, these accelerates could have been placed into the fifth rather than the fourth grade level without difficulty.

It was also noted that the requirements for individual projects, tutoring and units of enrichment were, in general, as much in demand by the accelerates as their new-found classmates. The notion that acceleration alone obviates the need for special program supplementation in the advanced grades soon disappears when teachers discover that the accelerate is as motivated as he ever was and capable of still higher level achievement.

Among the nine students of 522 deemed to have made "unsatisfactory adjustments," five presented problems of comparatively low achievement in given subject matter areas such as arithmetic or reading. The other four presented personal kinds of difficulties which were inadequately diagnosed during case study.

To this date, none of the 25 pupils for whom "problems were reported" have been "deaccelerated." Again, these problems represent varied unforeseen difficulties which became acute when the child was placed at the higher competitive level. The most prominent complaint was that of selected low levels of subject matter achievement. Most of these problems could have been avoided by strict adherence to standards of achievement before the child was placed in the summer school.

Based primarily upon observations of accelerates in the large unified school districts practicing individual placement, it has been observed that:

- accelerates participate as actively in extracurricular activities as do matched non-accelerates or older grade level peers

- they are chosen as often or more often for classroom or school officers as are older grade placement peers and more often than are matched non-accelerates

- their overall ratings for social and emotional adjustment are as high or higher than older grade level peers or matched group non-accelerates

- no social, emotional or academic maladjustment could be traced solely to the acceleration process

- for motivated, academically able pupils, the acceleration process acts as a stimulant for still higher level achievement, participation and interaction

4. Field Services. The actual responsibility for conducting programs falls upon the summer school teacher. In one demonstration center, the role of "teacher-consultant" enabled the district to fulfill the responsibilities for liaison with the lower and higher grades during the school year as well as preparation for the summer school visitations by having the summer school teacher prepare appropriate announcements and answer correspondence.

Interdistrict consultant services are different in kind from those required in other programs treated in this publication. The field consultant cannot supervise all of the complex aspects of this program. In order to do this, they would need to be a guidance as well as a curriculum specialist. What the field consultant can do is review the research, establish inservice training for teachers and generally promote the concept of acceleration in the adopting district.

In the initial phases of this demonstration, the field consultant had to develop case study forms, summer school curriculums and guidelines for the preliminary establishment of these programs. However, at this stage of development, since guidelines are constructed and available, it is possible to rely upon promotional consultant services only.

While curriculum innovation is as important to this program as any other educational undertaking, it does not constitute a vital part of promoting and establishing acceleration programs. This is because the curriculum of the summer school is related to the existing sequence of curriculum offerings already established in the district. The consultative needs of this program are primarily promotional, demonstrational and evaluative.

The promotional aspects of the consultative services for this program may be carried out through article writing, visitations to school districts indicating possible interest in the program, establishment of workshops in cooperation with state colleges and continuing review and synthesis of related research for general distribution.

The demonstrational aspects of the field service can be carried out by expanding the amalgamated teacher workshop--pupil summer schools. These workshop-summer schools include special educational programs for teachers of the gifted and an array of program possibilities for gifted pupils themselves during the summer school. Since teachers seek advanced training during the summer and all sorts of equipment, materials and building space are available during the summer, this aspect of the program ought to be emphasized and exploited. Perhaps state or county level field consultants ought to be hired for the express purpose of setting up such workshop--schoolroom cooperative efforts.

The type of field consultant best qualified to fulfill this role would appear to be one equally conversant with the needs for teacher training and school operation. This role of organizing summer workshops and teacher training courses might prove to be the "missing link" in the heretofore broken line of communication between research and classroom practice.

The type of field consultant services necessary for the successful dissemination and export of program prototype to new districts was found to be characteristically different program to program. The enrichment and special class program prototypes required consultant services primarily for the construction, evaluation, and modification of curriculum. The counseling-instructional demonstration needed a consultant who was also a trained psychologist and capable of entering into group counseling relationships for demonstrational purposes.

The individual placement program required consultant services which were equally competent in the psychological and curriculum building areas. In addition, the consultant needed to devote a considerable amount of services to explanation and interpretation of research findings in the subject area of acceleration programs. This consultant needed to be more expert in the areas of general research and evaluation procedures since the individual placement program depended heavily upon measurement of outcomes.

Table 2-6 summarizes and describes the types of field services necessary for dissemination and export of the individual placement program to other school districts. Since most demonstration occurs during the summer, consultant services can be efficiently distributed. During the summer, promotion, demonstration and interpretation of the program occurs. During the regular school year establishment, organization, support and evaluation of the program as it becomes adopted by new school districts can be carried out. The consultant tasks listed in Table 2-6 may be viewed in three general categories including: (1) demonstration, (2) re-establishment in new localities, and (3) evaluation of success of program in new areas.

Table 2-6

Sequential Field Consultant Tasks for Exporting the Individual Placement Program to Adopting School Districts

Consultant Task	Methods	Contacts	Materials	Outcomes
Publicize, Promote Program	Write Articles, Announce workshops, followup correspondence	Administrators, Curriculum Consultants, prospective local coordinators	Reprints, announcements, letters	Generate interest, General explanation
Demonstrate, explain, interpret model program	Teacher workshops, Open class days for visitation	Administrators, teachers, consultants	Guidelines distributed, Program described in detail	Arrange visit to interested districts, Questions answered
Visit, Consult with new districts	Outline resources, organization required for new program	Administrators	Guidelines case study evaluation reports	Administrative decision to try out program locally
Present program to personnel	Lecture, Seminars	Entire staff	Handouts, general description of program	Tentative acceptance explanation, dialog invited problem areas spotted
Establish local responsibilities	Roles defined, Tasks outlined, Committees organized	Central office staff, summer teachers, psychologists	Summer school curriculum case study forms evaluation forms	Program begins Pupils screened Committees work on curriculum evaluation, publications
Suggest program modifications	Compare guidelines with actual operation, Interpret difficulties	Entire staff by request	Findings from other districts research	Program becomes individually suited to host district
Organize Inservice Training	Prepare outline of topics, select speakers, workers	Coordinator	Literature (e.g. Bloom's Taxonomy), Guidelines, Curriculum Case Study Materials	Systematic inservice training opportunities established for all teachers, special training for summer teachers, guidance staff
Support, Aid, Observe Local Development	Periodic Visits, Consultation	Administrators, Coordinators	All--as indicated	Help to interpret, solve new difficulties, "moral support", Serve as model they will emulate when working with teachers
Help structure, analyze evaluation	Establish periodic timetable for evaluation, Suggest instruments, Give technical aid in analysis	Administrators, Summer teachers, Psychologists	Tests, exams, Rating forms, case study data	Program success estimated, Problem areas described, Feed-back causes curriculum case study modifications

In practice, a "field consultant" role did not occur until the second or third year of operation of this program. This was because an inordinate amount of time needed to be spent in the development of curriculum guidelines, case study forms, and the like. However, Table 2-6 should serve as a useful model for state level and county level consultants contemplating fulfilling the role of a disseminator of educational programs.

D. Discussion

A number of topics have been chosen for discussion which reflect particularly difficult problems, require further explanation, need analysis or interpretation or have not been treated in other portions of this chapter. This section has been organized to have a distinct "problem oriented" flavor. This section could be labeled "unsolved problems."

Two problems seemed to be overwhelming and colored most of our activities with acceleration programs: (1) many of the difficulties in communication, student appraisal and interpretation of findings seemed to be caused by insoluble professional and lay attitudes toward acceleration, and (2) administrators from adopting outside school districts tended to appraise the demonstrating districts more critically than the program prototype itself.

The problem of negative prejudices for acceleration programs appears to be historical and endemic within that population of adults educated from 1920 to 1940 (the parents and teachers of the potential accelerates we have to deal with at this time belong to this group).

Interviews revealed that much, if not all, of this prejudice is related to the mishandling of acceleration during the schooling of parents and teachers themselves. From their experiences, they cite procedures for acceleration that were ill thought out, sloppy and rarely followed through with necessary counseling, tutoring and testing services. Adults report that they themselves were "skipped up a grade or two with no advice or choice in the matter." Since they fear a similar mismanagement for their own children, they tend to reject acceleration programs.

The second major problem, that of visiting administrators critically evaluating the demonstration district with more relish than they analyze the program being demonstrated, is a problem not easily solved. We would have to honestly admit that it was difficult to locate demonstration districts for this reason. Obviously, busy administrators do not want to open their districts to criticisms, controversies and problems created by outside forces.

This problem also poses implications for field consultants attempting to change district policy, practices and curriculum. Every criticism, however couched in positive terminology, implies that the policies or resources in existence are in some way inadequate. Demonstration districts need to be chosen on the basis of screening criteria including such items as the following: longevity and stability of the current administration, assessment of unsolved problem areas, to attitudes toward gifted children or acceleration programs, general level of sophistication in training, background and experience of appropriate district personnel, past experience with other types of programs for the gifted, financial capability, or proportion and level of gifted students within the general school population.

1. Selected Interpretation of Findings

a. Program Success. It would be unrealistic to expect that accelerated pupils would not raise questions, pose problems and seek for adjustments to minor social problems and the like. Of necessity, the criteria used to judge whether or not a given accelerate had reached the level of being "totally ready" for acceleration have to be analytically subjective. On the other hand, interviews with teachers from higher grade levels revealed that when a pupil was not "making the grade" their perception of his failure tended to be a "black or white" affair. For example, teachers may have noted that the child did not make as adequate a social adjustment to the new classroom as he had in his second grade class. This finding would probably not have obviated acceleration even if it had been known prior to acceleration. However, the fourth grade teachers tended to be more critical of the children than did the second grade teachers.

Overall, utilizing such evaluative criteria as: numbers of students successfully processed, usefulness of the program to the total school operation, inventory of "nagging" problems, flexibility of the program and success of field services; it is apparent that this program met with reasonable success. It should be noted that problems in pupil adjustment were deliberately sought out. This is distinctly not the case in other types of programs where only cursory case studies are made and little, if any, followup ensues. In order to objectively evaluate the meaning of the problems encountered among accelerates, similar intensive case study data would have to be collected, and compared, for matched nonaccelerates and pupils placed in other types of gifted programs.

b. Guidance or Instructional Programs. Since this type of acceleration program depends heavily upon case study techniques and involvement of teachers in a child study process, the program might be considered as being a guidance program at its basis. Four of the ten practicing districts organized and administered all aspects of the program from their guidance services office. With the guidance office as the focal agency for the program, there was a tendency for the acceleration to be oriented toward maintenance of standards or screening out students to fit an existing program.

Perhaps the comparatively lower percentage of "problems reported" among unified school districts is one reflection of this type of organization. The unified districts tended to have more thoroughly organized guidance services extending down into the elementary schools. Hence, pupils actually placed into the summer school program had more of a "scientific prognosis for success" than those referred on the basis of largely anecdotal data supplied by teachers in the elementary districts.

c. Defense of the Summer School. The summer school acceleration program, in most districts, stimulated administrative thinking about more extensive use of the school facilities during the summer for other programs for the gifted. It is surprising that this concept of the use of the summer school did not find more acceptance outside of the practicing districts.

Future promotion of this program ought to emphasize the efficient and effective use of the summer school for accomplishing academic advancement as well as enrichment.

d. Lack of Interdistrict Agency for Data Gathering. Although considerable case study data was collected, interpreted and pooled from interdistrict sources, no state or county agency was available for the expert interpretation of the data with feedback for the revision of standardized forms and instruments.

Thus, each district had to standardize or norm its own forms and instruments. This is an impossible task for a small district where samples are too small. An undertaking of this dimension would be enhanced by the availability of information processing agencies with feedback mechanisms. In order to "make acceleration work" it is necessary to compare potential accelerates with ever-changing academic, social and intellectual standards. The rating forms developed during this project would be far more useful if accompanied by normative standards.

e. Parent Involvement. The extent to which special attention had to be paid to parent problems, such as anxiety about acceleration, was unanticipated. Also, unsettled questions about the validity and reliability of parent rating forms were raised. For example, one district reported that parents returned forms rating their child's adjustment in most categories with ratings of "good and excellent." However, these high ratings were accompanied by anecdotal notes scratched in margins which were quite critical of the child's performance and expressing negative attitudes toward his acceleration. Individual followup interviews tended to reveal that the "true feelings" of the parents might have been closer to the negative anecdotal comments. Paradoxically, in most cases teacher ratings and pupil self-ratings tended to agree and were both high.

Such findings raise questions concerning the wisdom of utilizing forms or instruments with parents. It may be supposed that chronic negative attitudes toward acceleration on the part of the parent might eventually warp the child's own view of his advanced placement. Perhaps, among the standards and hurdles restricting entrance into acceleration programs needs to be a decision as to whether or not parental attitudes obviate the feasibility for acceleration. School officials would have to decide the comparative advisability for "parent education" or "veto power of parents"at the local level.

f. Demonstration Districts. The choice of a large urban unified district and a large suburban elementary district seemed logical at the time this proposal was written. However, experience has revealed that the large unified district serves best as a demonstration center. The happy combination of available consultant services, location, and experience with teacher workshops add up to a "winning combination" in favor of the unified district. The unified district demonstrating this acceleration program plans to continue offering this program indefinitely and is still expanding the program within its own district as well as offering summer workshops.

Unforeseen circumstances prevented thorough development of demonstrational potentialities in the elementary district. During the period of the project, the population of this district changed drastically from "marginal middle class suburban" to a large proportion of "underprivileged." Thus, it was necessary by the second year of operation to change the emphasis of the summer school from acceleration to enrichment. By the third year of operation very few children could be demonstrated to be ready for actual grade level acceleration. While the idealistic motive of finding academically able students among an under privileged population was compelling, the day-to-day realities of dealing with the more acute problems of remediation for children in this population gained priority. As an inevitable consequence, less resources could be devoted to this program. However, the screening devices developed, the training of teachers for objective pupil observation and the emphasis upon guidance services did profoundly influence general program changes in this district. Also, 50 children were actually accelerated with only two "questioned accelerations," during the three year period.

2. Unsolved Difficult Problems

More extensive dissemination of the acceleration program was hindered by three essentially unsolved problem areas including: the aforementioned unfavorable adult bias for acceleration, a tendency to "over-interpret" or place too much emphasis on seeming discrepancies in case study materials, and a tendency toward "oversell" of the program.

a. Unfavorable bias for acceleration. As final assessments were made for this report, it was noted that negative bias for acceleration programs affected districts over a long-term period without abatement. Several districts, with otherwise successful acceleration summer programs, have reverted to pure summer enrichment programs because school administrators were not willing to tolerate incessant criticism based on negative attitudes of teachers and parents.

Apparently, the battle against this sort of bias must be intensive and relentless. Unfortunately, most school administrators would prefer to fight the battle for a particular kind of program once, and only once. Knowledge about acceleration, on the other hand, should be disseminated afresh each year. None but the most persistent researchers seem willing to devote this kind of attention to a particular kind of educational program.

This problem seems to be severe enough to warrant special study of adult prejudice for acceleration programs in any proposed new acceleration programs.

b. Over-emphasis on case study. This problem presents pupil personnel workers with a contradiction. While it can be shown that the foundation for acceleration programs is the case study, yet case study processes can be over-stated or over-performed to the detriment of other aspects of total educational programming. For example, teachers and administrators may resent disproportionment expenditures of time upon the gathering of case study data to the detriment of the curriculum. Case studies which are couched in esoteric psychological language, may be operationally useless by the classroom teacher. Overly voluminous case study files may be operationally pointless since no single teacher could possibly devote the time needed to digest all of the materials. These are but a few of the specific problems which should be anticipated by developers of case study information forms. The case study, along with its purported purposes, must be analyzed and constructed in the context of a busy school setting.

One of the more distressing problems encountered was the lack of standardized criteria for approaching pupil characteristics. For example, which pupil characteristics, when found to be deficient, are of such a nature as to obviate placement into an acceleration program? Wide disparity was observed among teachers rating pupils' suitability for the program. Some teachers would place most emphasis upon academic standards using such criteria as "two grade levels above peers, or grades of B or better." Other teachers would place seemingly inordinate emphasis upon minor developmental discrepancies such as size of the child or coordination. Apprehensive teachers might preclude acceleration of the child if any discrepancy, unusual factor or negative result appeared in the record.

Other teachers would overemphasize such hard to appraise factors as "social sense" and tend to underestimate the importance of comparatively low achievement scores.

The composite solution for this problem seems to be a thorough yet efficient case study with built-in standardized criteria. Which factors are of a serious enough nature to warrant obviating an acceleration process? Local research efforts should be supported to find empirical answers.

c. Oversell of program. Of ten school districts in California practicing the individual placement program during the period 1962-66, six plan to continue this program in some form during successive summers. However, of these six districts, four plan to emphasize enrichment more than acceleration. As pressures build on the part of disgruntled teachers and parents against acceleration, the prognosis for the continuance of the acceleration, the prognosis for the continuance of the acceleration aspect is dubious. The "oversell" of this program may have involved an underestimate of the potency of prejudice against acceleration-type programs. We may have neglected to emphasize the need for recurring programs of evaluation. Continual emphasis upon reviews of the literature and education of teachers and parents to acceleration processes was also lacking.

Hindsight now indicates that larger urban unified school districts are better suited for the establishment of unconventional program prototypes. However, even sophisticated districts need to consider the establishment of unconventional programs in a context of traditional program prototypes.

It is apparent that programs such as enrichment in the regular classroom involve next to no risks. By contract, when you physically relocate a pupil from one grade level to another, risks are present.

Project consultants should assess not only the willingness, but also the overall readiness, of host districts to offer an educational program over a long period of time. Programs without posterity, with tenures of two years and less, serve only to disrupt other educational programming. Future export of this type of program should include a thorough assessment of the host district to establish its capability for carrying on the program over a reasonably long period of time.

E. Conclusions, Implications and Recommendations

1. Conclusions. From the findings, the following conclusions seem warranted with reference to the individual placement program of acceleration.

a. The individual placement program of acceleration, which utilizes the summer school for the smooth acceleration of children from grade 2 to 4, has been shown to be feasible, economical, and adaptable for large unified districts.

b. The data collected added to and reinforced earlier research findings showing that: more pupils could be included in acceleration type programs; acceleration programs must be built into the context of other educational programs; accelerates can be expected to equal or excel their grade placement peers, their mental age peers, and unaccelerated chronological and mental age peers in overall achievement.

c. The central feature of this program has been shown to be an operational pupil personnel services program at the elementary school level. Without complete cooperation between guidance and instructional staffs, this program cannot be operated.

d. This program must be envisioned as one spanning the kindergarten and grades 1-6. Isolation of the program to the substitute summer school session will result in inadequate tutoring, counseling and evaluation services. Chronologically, this program progresses in three stages including: selection and advanced work for pupils in K, and grades 1-2; attendance at special substitute grade summer schools; and, advanced work, enrichment and follow-up services including tutoring and counseling in grades 4-6.

e. The advantages of acceleration programs are available only for a selected group among the gifted. Therefore, the program should be established along with alternate program patterns for students who do not qualify for the acceleration program. Such "master programming" might include incorporation of enrichment units into the summer school session and parallel offering of other program prototypes during the regular school year.

f. It has been shown that strict standards must be maintained in this type of program. Specifically, minimal academic standards must be maintained. As minimal standards, it has been shown that no pupil should be considered for acceleration without overall achievement scores of two grade levels or higher above those obtained by his chronological grade level peers. In addition, districts must objectively and quantitatively define minimal standards for physical, psychological and social factors.

g. School districts adopting this acceleration program should have available specialized staff for research and evaluation studies. Several tasks need to be carried out by research staff including the development and standardization of forms, instruments and rating scales; continuing reevaluation of program goals and pupil progress; and, the establishment, maintenance and enforcement of appropriate selection standards.

2. Implications. Unanticipated findings warrant reconsideration of the following aspects of acceleration programs.

a. Neither the research nor this study have fully identified the main obstacles to the establishment of acceleration programs. It has been seen that "successful programs" by any meaningful academic or professional standards, are abandoned because they are exposed to incessant pressure from teachers and parents not agreeing with acceleration on emotional grounds. Perhaps these problems could be described as "sociological" in nature. There is a clear need to study the social, cultural and psychological motives of parents and teachers rejecting programs that involve unconventional approaches, risk taking or unusual commitment. None of the acceleration programs thus far developed have built-in mechanisms for studying and overcoming non-academic problems.

b. Review of the research and report of the findings for this acceleration program indicate that there may be a "means and ends problem" inherent in the ordinary structure of acceleration programs. Most acceleration programs seem to focus almost exclusively upon the "means." We may fail to adequately answer the question, "Where does this process lead to?" While many researchers such as Pressey or Mirman have emphasized the scholarly need of some gifted students to reach graduate school levels earlier, this point is not stressed in a systematic program of teacher and parent education.

Interestingly, certain projected "ends" of acceleration programs such as time saving, money saving and efficiency tend to be neglected by school administrators for reasons of "public relations or counter propaganda." One wonders why it is not possible to educate the public to the extremely varied needs of children as well as "educational process" and "price tags."

c. Promotion, demonstration and dissemination of acceleration programs are more complicated than was anticipated. The role of the professional consultant attempting to export acceleration programs involves a kind of teaching process both for the professional and lay publics. The consultant needs to educate these publics to the great volume of literature which exists describing the outcomes of acceleration programs.

Beyond this, the role of the consultant becomes one of accommodating a special kind of acceleration program to the unique environment of a host school district. It has been stressed that what is really different about an acceleration program, is the extent to which all involved must make tangible commitments assuming the accompanying risks. Therefore, assessments of the adults involved and the organizations worked with must be made.

3. Recommendations. The following recommendations might be implemented by future researchers.

a. Textbooks on the gifted notwithstanding, there is need for a scholarly synthesis of the unwieldy body of knowledge which has accumulated in the area of acceleration over the past forty years. The findings need to be codified, related and restated in the form of operational generalizations.

b. Exploratory studies need to probe into the underlying motives and prejudices of adults toward acceleration programs. Subsequent acceleration programs should build in techniques for assessing the intensity of such attitudes in the local population to be dealt with. New acceleration programs should consider this factor of adult prejudice as a fundamental obstacle to program success.

c. More elaborate formulae need to be constructed for the selection of potential accelerates. Such formulae should combine academic and psychometric data with minimal standards of performance. Also, formulae need to be proposed for the differential assessment of psychological, social and cultural factors. Such formulae would form a scientific basis for determining the actual acceleration of a pupil.

d. Future programs might be constructed in such a way as to emphasize teacher and parent education exclusively. Once adults are conversant with the great sweep of findings concerning pupil acceleration, a large part of their reticence to participate in such programs might diminish. Also, from the point of view of motivation, it might be healthier for acceleration programs to develop out of a felt need on the part of adults for the higher level achievement and placement of their children. Acceleration programs constitute only a means toward rather well defined objectives. Perhaps if these objectives (e.g. reaching productive levels earlier, more Ph.D.'s in population, etc.) were better understood by adults actual demand for acceleration programs would spontaneously increase.

F. Summary

An acceleration program called "individual placement project" has been developed, promoted, disseminated and demonstrated as one of the four special program prototypes of the overall demonstrational programs for gifted pupils of the State of California supported through federal funds. The individual placement program accelerated gifted pupils from grade two to grade four by establishing special substitute third grade summer schools in demonstrating districts. Program development proceeded on two major fronts including guidance and instruction.

Guidance services included the invention and standardization of forms for the selection and followup of pupils as well as the establishment of counseling and tutoring services.

Instructional implementations included the design of special summer school curriculum and modifications of existing curriculum in grades one, two, four and five to accommodate the individual accelerate.

The principal objectives of this type of acceleration program included: (1) the collection of a body of data to demonstrate that this type of acceleration is economical, simple and adaptable to most types of school districts, and (2) to demonstrate that this type of acceleration promotes pupil maturity and achievement without causing undesirable side effects. Both major objectives were largely realized and substantiated in this report.

Significant deviations from the initial description of this program included the restructuring of the summer school to include enrichment as well as acceleration units and a tendency for school districts to choose either an objective case study approach or a more subjective anecdotal case study approach. In general, these findings tended to strengthen the overall conclusion that this type of acceleration program is flexible and adaptable.

III. Counseling-Instructional Program

A. Introduction

1. Problem. The counseling-instructional program in California Project Talent was an attempt to weave together the goals and processes of counseling and instruction in a mutually reinforcing and optimum manner. While the project demonstration involved only mentally gifted minors in grades 7-9, the program as conceived is applicable at other grade levels as well. Experiences planned and carried out in group-counseling situations and in English and social science classes were based on case-study data such as motivational structure, interest patterns, and special abilities of gifted children. This program was "a tri-dimensional approach to learning." (41)

2. Major Emphases. Major emphases included improving communication skills, encouraging the development of personal sets of values and philosophy of life, and promoting more effective learning in social sciences and in English in grades 7-9.

Instructional and counseling experiences were planned which would develop higher intellectual skills and specific factors of creativity outlined in research studies of J. P. Guilford and E. Paul Torrance--for example, associational fluency, sensitivity to problems, and adaptive flexibility. (57)

3. Anticipated Benefits. Anticipated benefits for participating pupils were:

a. Improved motivation to learn important concepts and skills in the social sciences and English;

b. Realistic guided self-appraisal of abilities, goals and values;

c. Greater sensitivity and awareness; and

d. A dynamic and positive concept of self and of relationships with other persons, institutions, and environment.

4. Relationships of Counseling to Instruction. It was thought that group counseling and guidance would aid the instructional process through:

a. Helping students see how particular classroom experiences contribute toward the formation of a personal philosophy of life and values that tend to integrate experience;

b. Showing students interrelationships between concepts in different subject areas;

c. Promoting more acceptable relationships with chronological peers, students who are intellectual peers, and teachers;

d. Encouraging students to perform certain academic assignments in a more creative manner;

e. Helping them see the relevance to their own life of concerns, issues, knowledge, and skills from and of various subject fields.

Two additional aspects of this demonstration were (1) to show counseling techniques and materials that might be used by school psychologists and counselors in their working with gifted, highly gifted, and creative children, and (2) to develop inservice education materials of value to teachers, consultants, and counselors.

B. Method

Detailed information about the methodology employed in initial phases of establishing this demonstration is outlined in the original application for a Cooperative Research Branch grant to establish California Project Talent. More comprehensive information is to be found in a California Project Talent publication, "Counseling-Instructional Programs for Intellectually Gifted Students."

1. Selection of the School District. The San Juan Unified School District in Carmichael, California was selected as the counseling-instructional demonstration center on the basis of competencies and availability of personnel, administrative structure of grades 7-12, special facilities and special materials, experience and reputation in providing educational and counseling programs for the gifted, and proximity to institutions of higher education. Another important factor was the likelihood of the district continuing the demonstration after the termination of the project. A commitment was sought on the part of the district with respect to focusing administrative responsibility for supervision

of the project; special inservice education of personnel; use of a case-study approach in curriculum development; impartial evaluation of each aspect of the program; and dissemination of materials to other districts, state departments of education, and the U. S. Office of Education. Some assurances were given with respect to supporting performance of those functions thought to characterize a demonstration as "excellent," those functions that would play a significant part in encouraging other school districts to inaugurate interrelated guidance, counseling, and instructional programs for gifted children.

It was thought important that the philosophical orientation of teaching, consultative, and administrative personnel involved should be that of improving the quality of behavior and of individuals through instructional and counseling programs tailored to the characteristics and needs of typologies such as the gifted.

2. Steps to Implement the Program. The following steps were suggested to implement the program:

a. Acquaint teachers, consultants, and administrators with general educational goals and personality characteristics of gifted children.

b. Devise a means of assessing the interest and motivational patterns of individual gifted children.

c. Use data in the cumulative folders and in the individual case study records as a basis for this assessment and as a basis for planning individualized and small group learning experiences.

d. Plan and demonstrate educational experiences which will advance the adopted course of study and at the same time improve personality characteristics and promote certain general educational goals for gifted children.

e. After sufficient time (possibly four to six weeks) has elapsed for teachers, consultants, and administrators to have had experience with and to have internalized some of the principles emanating from a case study approach to curriculum planning, begin to make provisions for fostering creative thinking and production.

f. Involve curriculum and guidance personnel in planning educational experiences to help children achieve certain developmental tasks of adolescence and to realize a well-balanced array of objectives such as those outlined in Bloom's Taxonomy of Educational Objectives--The Cognitive Domain, and in French, et al, Behavioral Goals of General Education in High School.

g. On alternative weeks, have a school psychologist or counselor meet with small groups of about 15 children for an hour or for a regular school period to uncover group or individual problems, to discuss values and behavior, to reflect upon the great ideas of man, to attempt to divest minds of stereotypic thinking and functional fixedness, and to promote tolerance for and to encourage expression of ideas that might be highly creative and, perhaps, nonconforming.

h. Provide individual counseling in grade nine.

i. Schedule a meeting of the psychologist or counselor with the teacher of these children to discuss educational ramifications of the counseling sessions the day after the small-group counseling session. Inform the children that the counselor or psychologist and the teacher will function as a team.

j. During the alternate weeks when children are not attending the small group meetings, have teachers undertake certain guidance activities related to these meetings. Development of these activities by the teacher should result in professional growth and more effective instruction and learning in the classroom.

It was anticipated that evaluation devices including rating scales might be possible outcomes and that these would be directed toward assessing realization of behavioral goals of gifted boys and girls. Other evaluative devices were to be used to show progress in activities designed to promote the primary mental abilities of human intellect and various educational objectives. Material prepared for the California Project Talent publication, "Identification-Case Study" (July, 1964) was especially useful in establishing this demonstration.

3. Anticipated Time Schedule. Two initial aspects of the counseling-instructional demonstration were (1) development and demonstration of learning, counseling and guidance situations, activities, and experiences which mutually meet educational, guidance, and counseling needs of individuals, (2) development and demonstration of learning situations for promoting such traits of creative behavior as associational fluency, sensitivity to problems, and adaptive flexibility.

The time schedule for these two aspects was:

April-June, 1963

a. Planning summer workshop.

b. Orientation of district personnel.

c. Administrative arrangements and agreements reached with school district.

Summer, 1963

Summer workshop - one week for helping teachers plan educational experiences for gifted children in the light of information in cumulative and individual case study records.

First School Year

a. Weekly meetings - the first four weeks of the fall semester - with teachers, director or consultant of programs for the gifted, school principal, and counselor or psychologist.

b. Monthly inservice meetings of the district personnel for the duration of the program. These utilized resource consultants from such institutions as the University of California and Sacramento State College.

c. Demonstration project open to observers after the first half of the school year: English and social science classes.

d. Tentative descriptive materials available after the first half of the school year.

e. Progress report due January, 1964.

Summer Workshop, 1964

Second School Year

a. Weekly meetings - the first four weeks of the fall semester with the teachers, director or consultant of programs for the gifted, and counselor or psychologist.

b. Monthly inservice meetings for personnel.

c. Demonstrations open to observers: English and social science classes and small group guidance situations.

d. Preparation of tentative guidelines for counseling gifted children in grades 7-9.

e. Preparation of tentative guidelines for fostering creative thinking and production in English and social sciences in grades 7-9.

f. Progress report.

Third School Year

a. Continuation of pattern of weekly meetings and monthly inservice education meetings.

b. Continuation of demonstrations.

c. Preparation of guidelines for counseling gifted children in grades 7-9.

d. Preparation of guidelines for fostering creative thinking and production in English and social sciences in grades 7-9.

e. Production of filmstrips, films, kinescope tapes, and other inservice education materials which show the guidance, counseling, curriculum development, and classroom teaching aspects of this demonstration.

f. Final report.

It was anticipated that summer workshops, demonstration classes, small group counseling situations, and monthly inservice education meetings with key personnel from neighboring institutions of higher education, would result in:

a. Guidelines describing techniques and materials that might be used by school psychologists and counselors in counseling gifted and highly gifted children. Attention given to meeting the unique educational, counseling, and guidance needs of low-achieving gifted children, high-achieving gifted children, gifted children with special problems, and of gifted children with highly specialized interests.

b. Guidelines for fostering creativity in English and social sciences in grades 7-9.

c. Films, filmstrips, kinescope tapes, and other materials that might be used in inservice education of counselors, consultants, and teachers and that might show the guidance, counseling, curriculum development, and classroom teaching aspects of this demonstration.

It was thought that these inservice materials should portray characteristics of gifted children, ways of dealing with particular problems of gifted children, how parents and other members of the community and school personnel might work together in developing programs for gifted children and for providing special opportunities for them.

d. Syllabi of special summer workshops for teachers.

e. Descriptive materials, including a description and evaluation of monthly meetings with key personnel in gifted-child education or with personnel whose area of specialty contributes significantly to aspects of the demonstration.

f. Increased participation throughout California of students and of school districts in interrelated guidance, counseling, and instructional programs for gifted children.

g. Increased competence of teachers, consultants, administrators, counselors, and psychologists in meeting the unique learning and guidance needs of gifted children in grades 7-9.

4. Overview of Program Development. After selecting the school district and after agreeing upon basic cooperating relationships, specific plans were made for program development. In August 1963 a group of San Juan Unified School District teachers, counselors, and administrators attended the California Project Talent workshop in Los Angeles. They met with Project personnel and resource persons for two days. During that time they refined objectives and developed initial outlines of content and methodology of the counseling-instructional program. Basic agreements were reached regarding procedures for relating concepts to be developed in group counseling meetings with the curriculum and English and social science in grades 7, 8, and 9. During the next three days, workshop sessions were held at the State Department of Education and in the San Juan

Unified School District for the purpose of preparing an inservice training program for teachers and counselors, case study forms that might be used by counselors and teachers, and means of evaluating processes and accomplishments of the counseling-instructional program.

During the first year of the demonstration, 78 children and youth were involved in four intermediate schools and one high school. Student candidates and parents were oriented to the program by special meetings held in September at the respective schools. The project was supported unanimously by the parents who in turn gave permission for their children to participate. In October, students began to meet in counseling groups and continued meeting every other week for the rest of the school year.

A two-hour inservice training course was held for project teachers and counselors by the educational research project consultant. One unit of district credit was given persons taking this course. Following the program design, teachers and project counselors met within schools after each counseling session.

A four-week pilot summer session workshop and demonstration were held in the summer of 1964. Joining California Project Talent in this cooperative venture were the San Juan Unified School District and Sacramento State College. Teachers participated for a period of four weeks; gifted students attended summer session classes for a five-week period. A seventh-grade demonstration situation showed the integration of curricular and guidance objectives in the counseling-instructional program prototype. A primary class situation demonstrated acceleration without grade skipping. An enrichment class was demonstrated at the fifth grade level. Actually, because of summer school organization, each of the classes was actually a "special class" situation.

The summer workshop-demonstration program emphasized acquisition of basic information about characteristics of gifted children, appropriate teaching and counseling methodologies, teaching and learning strategies, appropriate materials, and the availability of human and material resources. In addition, each of the teachers and counselors viewed gifted children at different grade levels in different kinds of programs and had an opportunity to talk with master teachers about what transpired in these observation situations. Of great importance to the participants was the requirement of an individual project which would help them in the fall. This could be and turned out to be such things as a report to a board of education and superintendent, a format for a case study, curricular and counseling guidelines for fostering higher intellectual skills and specific factors of creativity, and resource guides that teachers could use in the fall.

It should be noted that the counseling-instructional program in the San Juan Unified School District was not planned for underachieving gifted students. In the fall of 1964, a variation of the counseling-instructional program was initiated in the Pasadena Unified School District. Attention was focused on the needs of underachieving gifted students in grades seven, eight, and nine. A special consultant employed by California Project Talent worked with the school district and school counselors on this program. Twenty-seven pupils met with the school counselors and special consultant in weekly counseling sessions.

In the summer of 1965, another workshop was provided in cooperation with the San Juan Unified School District and Sacramento State College. Two hundred and twenty children and youth were enrolled in the San Juan demonstration classes. The summer session and workshop were conducted on the same school site. A second workshop that summer was conducted cooperatively with the California State College in Los Angeles. Teachers, counselors, and administrators in the Los Angeles State College program observed children in special-class and counseling situations in a number of cooperating school districts which were conducting summer programs for gifted students.

During the 1965-66 school year (the final year of California Project Talent) the counseling-instructional program was expanded in the San Juan Unified School District from five to nine schools. There were now 27 groups--an increase from eight groups the year before. One hundred and eleven boys and 105 girls were involved.

5. Screening and Identification of Pupils to Participate in the Counseling-Instructional Program. Students participating in the counseling-instructional program qualified as California "mentally gifted minors." This meant that they were in the upper 2 percent of general mental ability at their grade level throughout the state. Scores on group tests of general mental ability and group tests of reading and arithmetic achievement were used in the screening process along with the subjective judgment of counselors

and teachers. Responsibility for placement was given to staff members of each of the nine participating schools. It should be noted that many more students were eligible for the program than could be accommodated in it. The reasons for this were both the desirability of operating the demonstration on a pilot basis and the lack of financial resources to employ extra personnel.

In a report prepared for the superintendent and governing board of the San Juan Unified School District, the California Project Talent consultant presented the following additional information on the characteristics of the pupil population involved in the counseling-instructional program:

To increase understanding of each student's academic and guidance needs, background information was obtained from each student and from cumulative records.

As defined by the Dictionary of Occupational Titles, (11) occupations of fathers were categorized as (1) professions requiring four or more years of college, (2) professions attained through training, and (3) "other." Occupations of 52 percent of the fathers fell in category (1), 31 percent in category (2), and 17 percent in category (3). Thirty-seven percent of the mothers were working outside the home. Special lessons outside of school were taken by 59 percent of the students. Seventy-eight percent had held a class office at some time during their school years. Most parents and students were either in agreement on student choice of career or had no preference as yet, and 12 percent of students and parents differed on choice of career.

Scores on the High School Personality Questionnaire indicated that boys in this student group were significantly more reserved and critical, more assertive, more individualistic, more prone to worry, more self-sufficient, and more self-controlled than average male students. The gifted girls were significantly more enthusiastic, less rule-bound, and more individualistic than average female students. As part of their exploration into values and value systems, student participants were administered the Survey of Interpersonal Values. The six values measured are support, conformity, recognition, independence, benevolence, and leadership, and are defined as follows:

- S: Support -- being treated with understanding, receiving encouragement from other people, being treated with kindness and consideration.

- C: Conformity -- doing what is socially correct, following regulations closely, doing what is accepted and proper, being a conformist.

- R: Recognition -- being looked up to and admired, being considered important, attracting favorable notice, achieving recognition.

- I: Independence -- having the right to do whatever one wants to do, being free to make one's own decisions, being able to do things one's own way.

- B: Benevolence -- doing things for other people, sharing with others, helping the unfortunate, being generous.

- L: Leadership -- being in charge of other people, having authority over others, being in a position of leadership or power.

A study of a heterogeneous population of California high school students indicated Recognition as the only value which did not differ significantly between boys and girls. Girls in that group rated Support, Conformity, and Benevolence as having higher value than did the boys; and they rated Independence and Leadership as having lower value than did the boys. Scores of the gifted students in the demonstration program, however, did not show significant sex differences on Recognition, Conformity, and Independence. And compared with the heterogeneous male group, the gifted boys gave significantly less value to Recognition; the gifted girls gave significantly higher value to Independence than did the girls in the heterogeneous group.

Physical fitness and Physical Education grades were reported by a senior student at University of California, Davis.

Comparison of physical education grades indicated a grant point average of 3.4 for the gifted boys and 2.8 for the average. The gifted girls also revealed a grade point average of 3.0, while the average group had 2.5.

Both boys and girls in the gifted groups scored above the average on state norms on all but one item -- the girls' vertical jump. The gifted were at least equal to if not fractionally higher than average students within this school district, where district means on physical fitness were higher than statewide norms.

6. Inservice Training. Particularly effective in initial aspects of inservice education was an assessment of attitudes toward the gifted. This was done very early in the inservice training program. A Guidance Committee developed an "attitudinaire on mentally gifted minors," a device useful for sharing ideas on the characteristics of the gifted and for encouraging teachers and counselors to share their perceptions and to re-examine the bases of their attitudes and understandings.

It should be noted that the monthly inservice training meetings not only contributed to professional growth but also extended the bases for communication between guidance and instructional personnel and therefore broadened the scope of overall planning. Where there was great diversity of opinion reflected in the responses to the attitudinaire, there was an opportunity for further discussion and exploration by teachers and counselors. The California Project Talent consultant reported that slightly over one-half of the respondents agreed that tests of acquired learning should differ for the gifted from those designed for the average, but that an almost equal number disagreed or could not decide. Therefore meetings were devoted to analysis of intellectual operations, objectives of testing, and implications for measuring achievement of gifted students. Other areas which needed further study were variability of attributes among gifted people; bases for class placement of gifted children (chronological peers? social peers? intellectual peers?); expectancies for classroom productivity of gifted students; physical, emotional, and social adjustment; and how moral behavior is learned. Communication between teacher and group leader (counselor or psychologist) is a crucial element in a fully functioning counseling-instructional program. The meetings which were scheduled between the counseling sessions accomplished this to a large degree by focusing upon individual student and group performance, curricular modifications that could facilitate guidance and counseling objectives, and clues that counselor might get from teachers which would assist him in planning subsequent small-group sessions. (10, 12, 13, 17, 19, 20, 21, 24, 25, 27, 34, 41, 51)

Inservice meetings were planned around tapes of counseling sessions, tapes of class lessons, evaluation of teaching materials, and samples of pupil products. Meetings judged most effective by the demonstration staff were those which provided time for interaction of the total membership. Participants also considered it extremely important to have a central theme and specific purpose for each inservice meeting. When available, guest speakers on group guidance and on gifted-child education provided bases for panel discussions and further program development. When such resource persons were not available, project staff personnel made presentations based on pertinent research and literature.

7. Demonstration. As might be anticipated, certain problems arise when one is attempting to demonstrate a counseling-instructional program. Particularly this is true when one is trying to encourage youth to disclose their real feelings about themselves, contemporaries, and their world and to use this knowledge as a basis for personal and social development as well as for more effective learning. Nevertheless, demonstrations were scheduled both in the formal sense and on a more casual "drop-in" basis. The California Project Talent educational research consultant also participated in many meetings, conferences, and workshops held by institutions of higher education and by professional educational, psychological, and research associations. The counseling-instructional program, as mentioned above, was one of the programs demonstrated in the summer counselor-teacher-administrator workshops during the summer of 1964 and 1965. The consultant had numerous requests for assistance in helping other school districts install the counseling-instructional prototype either as demonstrated or in some modified form. In addition to the general format of the program, some of the publications and materials exported were a "social values opinionnaire" used by the group leader in working with students in counseling sessions, a parent reaction sheet, a pupil evaluation sheet completed by teachers, and a student reaction sheet. Other forms developed were a discussion-group checklist and a self-inventory of performance.

8. Roles of the Educational Research Project Consultant in the Counseling-Instructional Program.

a. General: Demonstration and Dissemination. The person chosen to be the educational research project consultant for the Counseling-Instructional Program was a school psychologist with extensive background in counseling and guidance work. This person's task was to take a cluster of ideas, present it as a general model of counselor-teacher relationships and tasks, and to apply it to gifted children in grades 7-9. Hopefully, this was to be done in such ways as to achieve stated objectives.

While the basic role of this person centered around the functions of informing, demonstrating, and helping school administrators and other personnel install innovations, the job also entailed invention of guidelines, appraisal devices, and inservice education materials; fitting the counseling-teaching model to a field testing and demonstration situation; institutionalizing the innovation; and conducting such research and evaluation activities as were necessary for refining the model during the life of the project. It is important to stress that while the demonstration center focused attention upon processes of diffusion, it also became a hub of developmental activity. Thus the program prototype had a certain life quality which encouraged innovation.

b. Research. Research functions included securing data, information, and background upon which hypotheses regarding program innovation might be based. While data-securing and analyzing functions were not pursued in a formal research manner, they were pursued in an attempt to gain clues regarding optimum size and composition of (e.g., male and female proportions) of counseling groups; the nature of such groups; topics that foster fluency, flexibility, originality, social conscience, etc.; and the role of the counselor or group leader.

c. Developmental Activities. These activities established new patterns of professional (counselor-teacher) relationships and portrayed the process of teaching and counseling as dynamic, interacting, and mutually supporting. Orientation and continuing inservice education experiences were necessary to the success of the demonstration. They not only provided basic knowledge and generated attitudinal support; they also gave participants opportunities to develop skills of extrapolation, translation, application, analysis, synthesis and evaluation.

In these endeavors, the consultant acted as an information-giver, small-group leader, resource person, consultant, counselor, and supervisor. She undertook cooperative planning of the inservice education program and of modifying aspects of the demonstration; she coordinated the efforts of counselors and teachers in different schools; and she supervised the program in such ways that it was carried out in a manner consistent with project goals.

Some of the products included administrative, teaching, and counseling guidelines; appraisal forms; tapes of small group counseling situations; and lesson plans which incorporated guidance concepts.

As a basis for this developmental work as well as for the purposes of demonstrating the model, the consultant herself accepted responsibility for some group-counseling situations. This became the milieu for testing the degree of structure given to the counseling setting, the types of topics which elicited various kinds of response, and the assumption that information acquired by the small-group leader (counselor of psychologist) and experiences in the small-group counseling setting by students could contribute in a most positive manner to improving the effectiveness of teaching and learning in English and the social sciences. In like manner, this experience also was shown to be enriched by knowledge furnished by the English and social science teachers. Information about classroom behavior provided important clues as to what might be suitable small-group counseling topics and what ideas or problems should be pursued in counseling sessions for individuals.

d. Resume of Roles of the Educational Research Project Consultant in the Counseling-Instructional Program Demonstration of California Project Talent.

The following outline and chart present a resume of roles performed by the Project consultant:

Program Developer

1. Designer

    --Refining the model of the Counseling-Instructional Program

    --Developing appraisal materials

    --Preparing district guidelines

2. Educational Engineer

    --Packaging the model

    --Adapting it to the demonstration district, community, adult personnel, and students

3. **Field Tester**

   --Of procedures and content for realizing project goals e.g. personnel relationships and counseling topics

      --Counselor-teacher relationships

      --Group leader-student relationships

      --Counseling topics

      --Procedures for advancing higher intellectual skills and specific factors of creativity

4. Researcher

   --Psychologist

   --Small-group leader and counselor

5. Guidance Specialist

   --Coordinator of development of small-group counseling

6. Coordinator of Curriculum Development

Diffusion Specialist

1. Demonstrator

   --Building credibility of the Counseling-Instructional Program Prototype

      --in face-to-face encounters

      --through guided observation

      --as a small-group leader

2. Disseminator

   --Informing via articles, speeches, guidelines, and announcements of the demonstrations

   --Assisting in the planning and implementing of a summer workshop-demonstration

3. Installer

   --Establishing program within the school district

   --Establishing program within participating schools

4. "Institutionalizer"

   --Providing administrative personnel with help in incorporating a model, pilot, or test program into the program of the school district

Demonstration Supervisor

1. Coordinator of Teaching, Counseling and Curriculum Personnel

   --During the school year

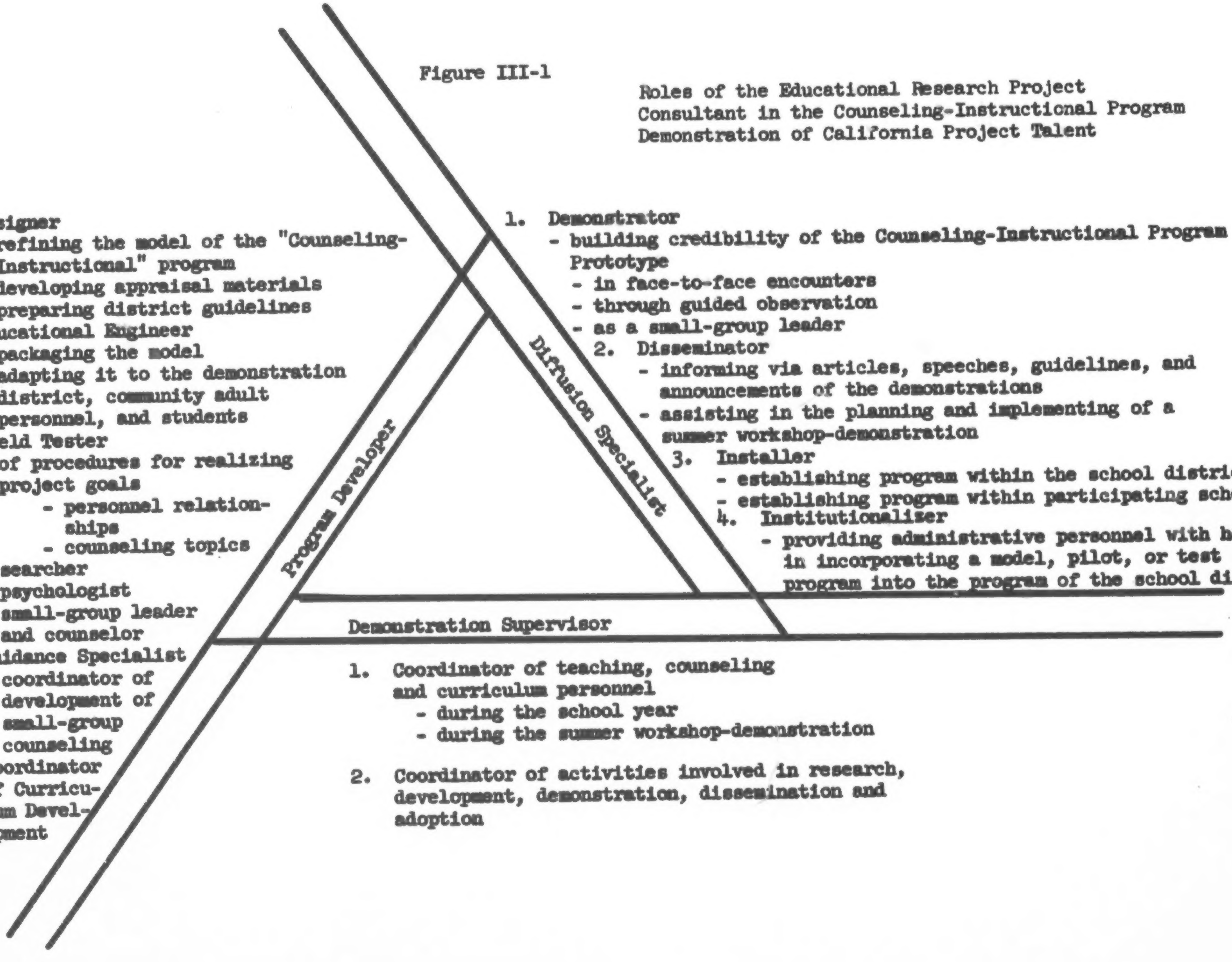
   --During the summer workshop-demonstration

2. Coordinator of activities involved in Research, Development, Demonstration, Dissemination and Adoption Efforts

Some of the roles were suggested by the "Classification Schema of Processes Related to and Necessary for Change in Education" by Egon Guba, and by previous research reported by Henry Brickell in "Organizing New York State for Educational Change," and on the basis of observations of both the California and Illinois gifted-child demonstration projects. They are also based on other attempts to define "What State Departments of Education Can Do to Establish and Improve Programs for Gifted Children and Youth." (42)

Figure III-1

Roles of the Educational Research Project
Consultant in the Counseling-Instructional Program
Demonstration of California Project Talent



Program Developer

1. Designer
   - refining the model of the "Counseling-Instructional" program
   - developing appraisal materials
   - preparing district guidelines
2. Educational Engineer
   - packaging the model
   - adapting it to the demonstration district, community adult personnel, and students
3. Field Tester
   - of procedures for realizing project goals
     - personnel relationships
     - counseling topics
4. Researcher
   - psychologist
   - small-group leader and counselor
5. Guidance Specialist
   - coordinator of development of small-group counseling
6. Coordinator of Curriculum Development

Diffusion Specialist

1. Demonstrator
   - building credibility of the Counseling-Instructional Program Prototype
     - in face-to-face encounters
     - through guided observation
     - as a small-group leader
2. Disseminator
   - informing via articles, speeches, guidelines, and announcements of the demonstrations
   - assisting in the planning and implementing of a summer workshop-demonstration
3. Installer
   - establishing program within the school district
   - establishing program within participating schools
4. Institutionalizer
   - providing administrative personnel with help in incorporating a model, pilot, or test program into the program of the school district

Demonstration Supervisor

1. Coordinator of teaching, counseling and curriculum personnel
   - during the school year
   - during the summer workshop-demonstration
2. Coordinator of activities involved in research, development, demonstration, dissemination and adoption

C. Results

The counseling-instructional program in the San Juan Unified School District resulted in:

1. A demonstration program which showed observers how a district might work effectively in weaving together the goals and procedures of counseling and instruction.

2. A case study publication (prepared by all California Project Talent consultants to be used in all of the demonstrations) which was helpful to counselors and teachers alike in planning counseling sessions and instructional experiences.

3. A publication, "Counseling-Instructional Programs for Intellectually Gifted Students" which contains guidelines for establishing similar programs in other school districts.

4. A series of counseling topics that possible might be used in group counseling situations and which might focus on the general areas of divergent thinking, social concerns, scientific explorations, governmental issues, religious man, psychological issues, educational issues, moral concerns, and philosophical concerns. (See Example 1)

5. An attitudionaire useful in inservice education with teachers of mentally gifted students. (See Example 2)

6. The preparation of a social values opinionnaire to note changes in rated values. (See Example 3)

7. A student reaction sheet.

8. A pupil evaluation form by which teachers could show changes in children.

9. Ratings by parents on the degree of behavioral change.

Another important result was that administrative personnel in the San Juan Unified School District felt that the counseling-instructional program had done much to bring together counselors and teachers into closer cooperative relationships. Communication had improved. Also noted were more opportunities for students to have personalized and varied learning experiences; increased interest in group counseling; and increased interest in devising learning experiences which improve language art skills, provide significant knowledge in the social sciences, and guide students in developing into responsible and productive adults.

The following changes in student ratings of social values and parent ratings of behavioral change were reported by the California Project Talent Educational Research Project Consultant:

Changes in Ratings of Social Values

An important emphasis of the Counseling-Instructional Program was exploration of attitudes and values in order to gain increased self-understanding and insight into the great ideas of man and history of the culture. Measurement of attitude change not only poses difficulties in assessment but occasionally invites controversy over potential invasion of privacy. However, a careful attempt was made to sample certain attitudinal changes. An original opinionnaire was devised by a committee of teachers and counselors and submitted to several classes for student criticism. Comments and suggestions were considered, and a revised form was used during the 1965-66 school year.

There was no intention of ranking the values incorporated in the forty statements. Rather, students were requested to rate each item according to their opinion of its importance in a value system from '1' (not important) to '5' (extremely important).

The Social Values Opinionnaire (SVO) was given to project participants in the fall and again in late spring. Certain interesting changes were noted, as, for example, considerable increase in rated value was observed on the following concepts:

	% Ratings Given by Students					
	FALL			SPRING		
SVO Statements	Not Important	Important	Extremely Important	Not Important	Important	Extremely Important
A job gives honorable status to an individual and is the normal way of life.	10	80	10	3	55	42
The individual person is, himself, a unique center of power and value; he does not exist for the state.	14	51	35	1	43	56
Economic productivity has been an outstanding feature of our way of life.	3	83	13	1	51	48
Respect for the talents and beliefs of others is basic to our way of life.	3	59	38	3	33	64
A person can rise no higher than his thoughts.	13	70	17	5	53	42
Americans believe that the civil authority is supreme in decision making power, and the military is used, when needed, to carry decisions into effect.	11	75	13	1	34	64

At the present time the SVO is considered most useful as a stimulus for discussion of values in the "American way of life." Some of the concepts are still viewed by some students as too difficult to evaluate; and several words, such as "diversity" and "electorate," were questioned for their meaning. For use as a valid measuring instrument the SVO would require further modifications.

Parental Ratings

Reaction sheets did not request identification of either parent or child, and the returns represented 53 percent of the students.

The majority of parent ratings indicated growth in the behaviors on which the program focused. Since most of the students came to the program as strong students, it is not surprising that more than one-third of the parents saw no improvement in the quality of the student's school work. Exceptional growth was reported in every area to some extent. The highest percentages of "exceptional growth" ratings were given on willingness to consider more than one solution to a problem, interest in learning, and more creative thinking.

RATINGS BY PARENTS
ON DEGREE OF BEHAVIORAL CHANGE

	% None at all	% Some	% Exceptional
a. The student discussed the group meetings at home.	4	93	3
b. The meetings seemed to increase his understanding of himself and others.	13	76	11
c. I feel that the program stimulated interest in learning.	15	70	15
d. Sensitivity to the feelings and needs of others has become more apparent.	25	63	12
e. Willingness to consider more than one solution to a problem has increased.	16	66	18
f. He seems more comfortable with situations which may not have "right" or "wrong" answers.	17	71	12

		% None at all	% Some	% Excep-tional
g.	He shows evidence of more creative thinking.	17	69	14
h.	The quality of his school work has improved.	37	57	6
i.	He is showing greater perseverance in following through in problem situations.	26	68	6
j.	He seems more eager to perform difficult tasks.	31	60	9

D. Discussion

1. Counselor-Teacher Relationship. The counseling-instructional program has been reported to be a most effective means of bringing counselor and teacher together in a positive constantly mutually reinforcing relationship. No longer in isolated camps, they see themselves as both contributing to learning effectiveness, personal development, and content-acquisition and comprehension goals. The emphasis on developing higher intellectual skills and specific aspects of creativity appears to be a way of unleashing and fostering talent heretofore lying dormant. Perhaps this program suggests the value of keeping the main counselor and teacher functions discrete--handled by experts in their respective fields--while at the same time incorporating peripheral and integrative functions of one another. A counselor's role may become more meaningful and effective as it impinges on the curriculum. The teacher's role may become more integrative and effective as it is concerned with guidance and personal development.

Although it is difficult to report results of counseling programs there are indications that pupils benefited from their participation.

2. Inservice Materials. It was hoped that each of the four demonstration programs might result in a color-sound filmstrip which could be used in dissemination activities during and after the termination of the project. Some recording tapes were made and some colored slides were taken in the special class and acceleration programs. These were used primarily to enhance consultant presentations at professional conferences and meetings.

Needed still are two related series of films which weave together the concepts of guidance and instruction. One series might focus on the small-group counseling setting, the other on instruction and classroom experiences in English and social sciences. Separate treatment would be given to the academic high-achieving gifted, the creative-production gifted, the highly gifted, the kinesthetically gifted, the gifted with great leadership ability, the gifted with emotional problems, (e.g., those concerned with self-concept development), and the underachieving gifted.

Only in the Los Angeles City School Districts where skilled technicians are employed for this purpose was it possible to get audio-visual products of widespread dissemination value. As mentioned above, inservice education products of this demonstration also included guidelines for developing such a program and evaluative devices such as the attitudinaire for assessing attitudes of adult participants.

3. Dissemination. Although the consultant in this project did appear at many professional conferences, and although a publication of value was produced, it must be readily admitted that there were some difficulties in attempting to demonstrate counseling without the aid of closed circuit television or one-way glass and observation rooms. Despite this fact, counselors, administrators, and consultants did come and did observe the demonstration during the school year in the San Juan Unified School District. Observations of this demonstration were made also during the summer teacher workshop program. In the San Juan Unified School District, recording tapes were used to augment observations and demonstrations of the counseling-instructional program.

E. Conclusions, Implications, and Recommendations

1. Conclusions. It is possible to demonstrate a counseling-instructional program which fosters personal development, improvement of counseling and instruction, and new and more effective roles of teachers and counselors.

Pupils, teachers, and the total educational program of school districts benefit by inservice education, program development, and attempts to plan educational and counseling experiences which foster higher intellectual skills, specific factors of creativity, and knowledge of one's self.

2. Implications. This demonstration suggests the need for further efforts to utilize guidance, counseling, and instructional personnel in developing instructional and counseling programs which are mutually reinforcing.

It is important to stress the quality of interaction between teacher and pupil and between pupils and their intellectual peers. This program suggests important steps in helping individuals develop to an optimum degree and steps by which educators may realize basic precepts of American democracy and of American education.

3. Recommendations. The following recommendations are made:

a. Care should be taken to select counselors or group leaders who have strong interest in and knowledge about gifted children, curriculum, and ways teachers work with children in the classroom.

b. Counselors and group leaders should be provided with a preservice training program focusing on such aspects as group dynamics, personality theory, learning theory, and objectives of the English and social science curriculums.

c. The room selected for the group-counseling sessions should be located away from distracting influences. Seating should be organized in such a way that each member of a discussion group should have eye contact with each other member.

d. A tape recorder should be used to record counseling sessions. Initial inhibiting effects of the tape recorder and microphone are quickly overcome when recording becomes a routine procedure. Analysis of these tapes can show progress of individuals and groups. The tapes can be used in inservice and demonstration situations.

e. Special care should be taken to accomplish the following: orientation of staff and parents, interpretation of program to community, selection and placement of students, preparation and use of case studies, meaningful group meetings, self-evaluation, and measuring group progress.

The California Project Talent Educational Research Project Consultant, suggested the following schedule for the counseling-instructional program:

a. During the early spring semester, describe program to total school staff; assign committee to study and make recommendations for adaptations; and describe program to PTA and other interested groups.

b. By the end of spring semester, select participating teachers and pupils; hold meetings with parents; obtain consent for participation; assign pupils to classes for fall semester; and gather case study data.

c. During the second week of fall semester, hold teacher-counselor planning meetings and determine steps in evaluation.

d. During the third week, study information about each student; hold teacher-counselor preparation meeting; and plan beginning sessions based on case study data.

e. During the fourth week, begin meetings of groups, and discuss purposes of group meetings and procedures.

f. Starting with the sixth week, teacher-counselor planning meetings should be held every other week.

g. At the end of the year, a meeting of school personnel and parents is recommended. The purposes of this meeting are to evaluate all aspects of the program and to suggest modifications of counseling sessions and of guidance activities performed by the classroom teacher.

For a more detailed account of procedures for establishing, implementing, and evaluating the counseling-instructional program, please see the publication, "Counseling-Instructional Programs for Intellectually Gifted Students."

F. Summary

1. Brief Description. The substantive focus of the counseling-instructional program was upon dissemination and demonstration activities. In essence, these informed school administrators, curriculum and guidance specialists, teachers, and counselors of the parameters, methodology, and content of a program which wove together the goals of counseling and instruction. Demonstration functions were planned to build credibility in the prototype and to encourage other school districts to adopt a similar program for mentally gifted students in grades 7-12.

2. Objectives. The main objective was to demonstrate a counseling-instructional program in which the components would be mutually reinforcing and which might be of optimum value to gifted students in grades 7-9. The California Project Talent Consultant and demonstration-district personnel sought to improve counseling, guidance and instruction; to help youth become more rational and creative; to develop motivation, interest, and personal sets of values; to improve communication skills; to develop dynamic and positive concepts of self and of relationships with other persons, institutions, and environment.

3. Methods Used. A first step and continuing task was to prepare teachers and counselors for modified roles which would overlap in the areas of guidance and instruction. Preservice and inservice programs were developed and carried out on a regular basis.

Students were involved in group counseling sessions every two weeks and in guidance related activities on alternate weeks. It was hypothesized that instruction and the curriculum would become more meaningful when modified to advance guidance objectives; and that counseling activities would benefit from information furnished by and guidance activities conducted by participating English and social science teachers. Case studies became a source of data upon which could be developed individualized and small-group instruction. It was thought that personnel in other school districts would become interested in observing this demonstration, in learning how to establish a similar program, and would in fact establish a counseling-instructional program similar in purpose and design.

4. Results. A demonstration program was established which wove together the goals and procedures of counseling and instruction. Inservice activities were carried out which enabled counseling and instructional personnel to function more effectively with gifted children and youth. Publications and presentations were prepared and helped to disseminate key ideas. The main objectives of the demonstration were met as evidenced by the export of the program to other school districts, expansion of the program within the demonstration district, changes in ratings of social values, changes in ratings of behavior, and in general by the judgment of persons involved.

5. Highlights: Findings, Significance, and Recommendations for Further Action. It is possible to demonstrate a counseling-instructional program which results in improvement of counseling, guidance, and instruction of gifted students. Pupils, teachers, and counselors appear to benefit from mutually reenforcing classroom and counseling activities and from opportunities for teacher and counselor professional growth. Further activities might seek to identify, test, package and disseminate additional ways of improving higher intellectual skills, specific traits of creativity, and affective aspects of teacher-student, counselor-student, and counselor-teacher dialogue. An end result might be the development of individuals who are more dialogical, creative, and humane in their orientation to life and in their relationships with other human beings.

A further developmental activity might result in series of films which would show both the counseling and the instructional aspects of the counseling-instructional program and which would show their interrelationships. Additional demonstrations might be developed which would make use of one-way observation glass and closed circuit television.

Additional contributions might be made to formulating educational objectives, lesson plans, classroom questions, examination questions, and criteria for selecting curricular material on the basis of taxonomies or designs which give some order to the development of intellectual power and creative ability.

Example 1

Topics of Small-Group Counseling Sessions

Because the Counseling-Instructional Program is a creative product of counselor and teacher interaction, materials are predominantly ideational. Scope and sequence of program content depend uniquely on the particular students involved. Level of difficulty need not be observed because the range of ability and achievement within grade levels probably will always exceed the range between grade levels. For example, the most intellectually mature seventh grader was able to handle more advanced concepts than the least mature ninth grader. Also interesting to note was the fact that many groups in the demonstration program reconsidered topics of the preceding year, and probed deeper into ramifications which they had earlier failed to perceive.

The following small group topics are examples of interests and concerns which were discussed by the groups in the 1965-66 demonstrations. Although most of the groups enjoyed the independence of proposing their own topics, some preferred to rely on the counselor to suggest an idea. The counselors reported that seventh grade groups tended toward this dependency.

1.0 Divergent Thinking

1.1 What would happen if by the year 2000 only 10% of the population had to work? (10)

1.2 If everything in the world were free and available in unlimited supply, what would be the effect on people's behavior? (4)

1.3 What if man will be able to live to 200 years of age? (3)

1.4 What would life be like if we closed all of our schools for 20 years?

1.5 Life on other planets, flying saucers, etc. (14)

1.6 What if brains could be transplanted? (2)

1.7 What if the Battle of Gettysburg had turned the other way?

2.0 Social Concerns

- 2.1 Teenage drinking
- 2.2 Problems of "addiction" -- cigarettes, alcohol, narcotics (4)
- 2.3 LSD (2)
- 2.4 Should mothers work?
- 2.5 Should women be drafted? (4)
- 2.6 Objectives of incarceration for crime: punishment? rehabilitation? (5)
- 2.7 Capital punishment
- 2.8 Welfare: eligibility and needs
- 2.9 What age for dating?
- 2.10 Drop voting age to 18?
- 2.11 Raise driving age to 18? (2)
- 2.12 Conflict between values of adults and youth and between groups of young people. (3)
- 2.13 Will a woman ever be president of the United States?
- 2.14 Fads (2)
- 2.15 Foreign aid vs poverty within the United States (2)
- 2.16 Automation and attendant problems -- will machines "take over"? (3)
- 2.17 Causes of high taxes
- 2.18 Problems involved in eliminating slums
- 2.19 Medicare (2)
- 2.20 Problems of the American Indian
- 2.21 Should a young person be punished for the rest of his life for one foolish act?

3.0 Scientific Explorations

- 3.1 Extrasensory perception (19)
- 3.2 Hypnosis (3)
- 3.3 Progress in medical science
- 3.4 Space race

4.0 Governmental Issues

- 4.1 One world government: can mankind agree and end war? (3)
- 4.2 The image of America abroad and the role of America in world leadership
- 4.3 Division of California into two states
- 4.4 Censorship (4)
- 4.5 Candidates for governor; the governor's function
- 4.6 Vietnam and related problems (21)
- 4.7 Governmental control versus individual rights
- 4.8 Is ours a true democracy? (2)
- 4.9 Registration of communists (3)
- 4.10 Comparison between policies of republicans and democrats
- 4.11 Watts riots (2)
- 4.12 Political issues (7)

5.0 Religious Man

- 5.1 What is the role of tangible proof in faith? (4)
- 5.2 Predestination and free will
- 5.3 Astrology
- 5.4 Spiritual man (3)

6.0 Psychological Issues

6.1 Stress from pressure for grades (8)

6.2 What is "being normal"?

6.3 Problems related to being youngest, oldest or in the middle of a family of children

6.4 Brainwashing

6.5 Parents who are teachers

6.6 Causes of unusual behavior

6.7 Meaning of dreams (3)

6.8 Individual differences

6.9 Meaning of group test scores, i.e. I.Q.

6.10 Personality -- innate? environmentally shaped? (2)

6.11 Possibility of changing (or controlling) human behavior through drugs (6)

6.12 The "real you" and role-behavior -- with parents, friends, etc. (2)

6.13 What is love?

6.14 Controlling behavior through reward rather than punishment

6.15 Mass hysteria -- its influence on history

6.16 Manipulation of people by the culture (2)

6.17 Why tests?

6.18 What is intelligence?

7.0 Educational Issues

7.1 The philosophy behind a grading system (5)

7.2 Pursuit of knowledge, taking tests, striving for grades, pressure of homework, and choice of college (9)

7.3 Characteristics of good teachers (6)

7.4 Looking ahead to high school (9)

7.5 Grouping for learning -- beneficial? (2)

7.6 Racial integration of schools through bussing students

7.7 Role of the school in rules and discipline such as boys' long hair and other fads (7)

7.8 "Good" books (5)

7.9 Evaluation of T.V. shows (5)

7.10 Merit pay for teachers; problems of evaluation (3)

7.11 The twelve month school year (5)

7.12 Adjustment to junior high school setting

8.0 Moral Concerns

8.1 Cheating: should people inform on cheaters? (3)

8.2 Honesty (3)

8.3 Gambling

9.0 Philosophical Concerns

9.1 Is man born human?

9.2 How can fact and truth be discerned? (2)

9.3 Conscience: What is it?

9.4 Existentialism

9.5 Reality -- how do we know what really exists? (2)

9.6 Relationship of time to human experience

9.7 Does the man make history or does history make the man?

9.8 Luck -- is there such a thing?

9.9 What is patriotism?

9.10 What is freedom and what is privilege?

10.0 Miscellaneous Topics

10.1 Pay T.V. (2)

10.2 Controversial issues related to causes of the Civil War

10.3 The French and Indian War

Example 2

Name__________

ATTITUDINAIRE ON MGM

Some of the statements below will probably elicit "maybe" or "sometimes" responses. If you cannot agree (a) or disagree (d), circle the question mark.

A ? D 1. Very bright children are usually impractical.

A ? D 2. Tests of acquired learning should differ for the gifted from those designed for the average.

A ? D 3. Among intellectually talented, top achievement level in adult life tends to be more closely related to outstanding personality than to ability.

A ? D 4. Intelligence is a characteristic which interferes with common sense.

A ? D 5. Gifted students need simply more of what average students learn.

A ? D 6. Superior intellectual development tends to cause emotional instability.

A ? D 7. It is undemocratic to provide gifted children with educational situations which differ from the regular school program.

A ? D 8. Gifted students profit less from practice or rote learning activities.

A ? D 9. Sarcasm, toning down, and pressure for conformity may undermine the bright child's sense of worth.

A ? D 10. The gifted can take care of themselves in a conventional program; special programs should focus on those who need help in learning.

A ? D 11. Gifted children are easily identified through observation in the classroom.

A ? D 12. In general, intellectually talented adults report that feelings of fulfillment in their chosen field fell below their anticipated satisfaction.

A ? D 13. Gifted people are marked by variability; that is, two gifted persons differ more from each other than two persons who are similar on any other basis.

A ? D 14. Research tells us that accelerated academically talented children appear to be as personally and socially adjusted as other students.

A ? D 15. Early marriage (age 18-23) and family responsibilities have been found to impede the careers of the intellectually talented.

A ? D 16. Gifted children should remain with their chronological age group for the sake of social adjustment.

A ? D 17. It has been reported that approximately 50 percent of our college-capable youngsters never complete their college education.

A ? D 18. The most important single factor in the decision of able students to go to college is the attitude of their parents toward higher education.

A ? D 19. Since gifted children are known to learn rapidly, they should produce more work in the classroom than average children.

A ? D 20. The self-contained classroom is the best environment for the gifted child in the elementary school.

A ? D 21. Identical educational experiences will promote equality of educational experiences.

A ? D 22. For the highly creative person, a good part of his reward lies in the activity itself rather than in the recognition which it inspires.

A ? D 23. Ability grouping is neither desirable nor feasible.

A ? D 24. Programs for the gifted should be open only to students who make high grades.

A ? D 25. Gifted children as a group are superior in physical, emotional, and in social adjustment.

A ? D 26. The teacher should assume that the gifted student is equally capable in all areas of study.

A ? D 27. Education suitable to the gifted is exploratory, characterized by the problem-solving approach, self-direction, guidance teaching, and workshop methods.

A ? D 28. Bossiness and overtalkativeness may be symptoms of insecurity.

A ? D 29. Any program for bright children will meet the needs of the gifted.

A ? D 30. It is essential that highly creative students achieve high academic standing in all academic courses.

A ? D 31. If it's good for the gifted, it's good for all.

A ? D 32. The mind that can produce a ready answer to every question may yet need training toward self-criticism and the rethinking of first impulses.

A ? D 33. If achievement tests indicate that a student has already acquired skills, it is acceptable to omit the usual assignments and alter class requirements to allow for creative projects.

A ? D 34. Moral behavior may be learned through thinking about moral situations, tracing various kinds of behavior through to their probable consequences, and reaching conclusions which may govern future behavior.

A ? D 35. Conformity to academic schedules and assignments is more important than talent development.

A ? D 36. Unless children find that their ideas are respected, they will not communicate their ideas.

A ? D 37. Equal education does not mean identical education.

A ? D 38. Inability to express ideas effectively and accurately is probably the basis for most human problems.

A ? D 39. Gifted children may seem lazy because they need to spend comparatively limited time in understanding new situations.

A ? D 40. Suppression of intellectual controversy and of unresolved differences of opinion in the classroom may contribute to under achievement.

Example 3

SOCIAL VALUES OPINIONNAIRE

Below are statements which reflect certain attitudes and ideals in the "American Way of Life." You are asked to rate them according to your opinion of their importance in a value system. Rate from '1' (not important) to '5' (extremely important).

1. The most important kind of honesty is being honest with yourself.
2. Americans believe in the right of free citizens to assemble peaceably.
3. A job gives honorable status to an individual and is the normal way of life.
4. The individual person, is, himself, a unique center of power and value; he does not exist for the state.
5. To know what is right and not do it is the worst cowardice.
6. Americans believe in the freedom to have knowledge of all kinds except when knowing certain information would endanger the whole community.
7. Respect and recognition for the many racial and religious groups within our society is essential.
8. Each person should be given opportunity to develop his capacities to the fullest extent.
9. Knowledge has value in itself.
10. Americans believe in the freedom to speak or write opinions on economic, religious, political, or social matters.
11. Treat others as you would have them treat you.
12. All of us have some special talent in which we can excel.
13. A free society means responsibility as well as privilege.

14. The state is created to provide for the common defense and to further the general welfare.

15. Economic productivity has been an outstanding feature of our way of life.

16. The people have the right to reform or alter their government by lawful means.

17. Respect for the talents and beliefs of others is basic to our way of life.

18. Each person must learn to be responsible for the consequences of his own conduct.

19. A person can rise up higher than his thoughts.

20. The people have the ability to govern themselves.

21. Americans believe that loyalty of family members to each other is essential to our way of life.

22. Decisions made by common consent are better than results obtained through orders issued by a dictatorship.

23. The maintenance of a free society is a full-time job involving the responsibility of every individual.

24. Each person must learn to recognize the decisions of the majority of the group and the rights of the minority.

25. Outstanding preparation of every individual for his job, his family, and his citizenship is important in our way of life.

26. Under the American system of justice, a man is innocent until proven guilty.

27. The freedom involved in our way of life has encouraged great cultural richness and diversity.

28. Brotherhood implies an appreciation of the human dignity of each individual.

29. A free society provides inspiration and reward based on the achievements of the individual.

30. An effective representative government depends upon an educated electorate.

31. Nothing worthwhile is ever lost by taking time enough to do it right.

32. Americans believe that the civil authority is supreme in decision-making power, and the military is used, when needed, to carry decisions into effect.

33. Life is not so short but that there is always time for courtesy.

34. The government cannot serve the interests of an individual at the expense of the common good.

35. When everyone thinks alike, few are doing much thinking.

36. The individual person must manage his behavior so as not to impair the freedom of his fellows.

37. Ideas are more powerful than armies and secret weapons.

38. Americans believe in the freedom of each citizen to have a voice in the government under which he lives as shown in the right and responsibility to vote.

39. The secret of success in life is for a person to be ready for opportunity when it comes.

40. Americans believe in protection of the free citizen against unreasonable invasions of privacy by officers of the government.

IV. Special Class Demonstration

A. Introduction

Special class programs demonstrated by California Project Talent were all-day, full-week programs for groups of children identified as mentally gifted minors. California State legislation defines a mentally gifted minor as a child in the upper two percent of general mental ability at his grade level throughout the State.

1. **Explanation and Anticipated Benefits.** This demonstration was planned to emphasize instruction and evaluative procedure that might be carried on in grades four, five, and six. Anticipated benefits were improvement in ability of pupils to carry on processes of inquiry and to apply knowledge and skills to problems not previously encountered. It was hoped that teachers in these classes (and student teachers) might become more creative, more adept at asking pertinent questions, more insightful and more effective in getting pupils to discover principles, relationships, and generalizations. An attempt was made to demonstrate a rationale of teaching and of learning problem-solving behavior in the areas of science, social sciences, and mathematics which enables intellectually gifted students to function rationally and creatively in leadership roles. As student achievement increases and as they progress upward in the grades, there generally appears to be an increase in the practice of ability grouping. It should not be assumed or expected that such grouping will achieve homogeneity of student group or of instruction and achievement. However, it does tend to reduce the range of diversity of talent within a class and to increase the proportion of educational experiences and instruction in which a pupil may participate at approximately his levels of comprehension and problem-solving ability.

A complete description of the special-class demonstration centers in California Project Talent is included in a publication of the California State Department of Education entitled "Special Class Programs for Intellectually Gifted Students."

2. **Research Findings Which Influenced the Design of the Special-Class Demonstration.** Research studies reviewed prior to the establishment of the special class demonstration program seem to justify the following statements:

a. Special classes for superior students result in superior academic gains when programs are adjusted to their learning rate and levels of achievement. However, without these special provisions, ability grouping appears to have no significant influence on academic achievement. Mere segregation of bright students may produce negative or indifferent results.

b. Surveys of parents, teachers, and students involved in special-class programs generally show favorable attitudes in support of continuing ability grouping.

c. Sociometric and other measures of social maturity show no changes of status among peers for most groups of gifted students in special-class programs.

d. No data-based evidence was found to indicate that the self-image of the gifted student is enhanced by participation in regular classes or that the academic achievement of average students is enhanced by the presence of gifted students.

3. Rationale. Organization of special-class programs for the gifted is consistent with basic precepts of American education and of American democracy. These underscore the primacy of the individual and the importance of tailoring education to his abilities and needs. This is done most frequently in the fields of music and athletics. The key factor is not the structure of the administrative organization but the quality of experiences afforded boys and girls. The basic question is not, "Should We Have Ability Grouping?" (For, in fact the public has long supported the concept as applied to certain subjects and certain children) but rather "When Is It Most Desirable?" When we deal with this question in an analytical manner we can see that for certain purposes, in certain school situations, and in certain communities, special classes can be established and administered in ways that result in unique benefits for the gifted.

Five statements which might constitute a rationale for programs for the gifted and for special-class programs for these students are:

a. Special-class programs for gifted children are consistent with basic principles of American education and of American democracy.

b. These programs fit logically within a matrix of a number of other special-class programs for children with special talents, capabilities, and needs.

c. There are unique learning needs of gifted children and youth and these require certain types of programs, materials, and teachers.

d. Distinct gains in learning and in personal development can be achieved through special-class programs.

e. The future of this country is tied intimately to the types of behavior fostered in gifted children and youth.

Advantages of such programs are that gifted students stimulate one another to speculate, to expand their interests, and to extend their awareness; students gain better understanding of their capabilities; and content may be explored in greater depth. Then, too, time saved by rapid acquisition of skills, concepts, and information can be devoted to counseling and instructional activities. These may do much to make the gifted aware of their capabilities and of important aspects of their environments.

Special-class programs can also keep the gifted child from developing a sense of resentment for being held back in his intellectual development. These programs may provide more freedom of expression and elicit more positive attitudes toward schooling and toward less able chronological-age peers. Children who are not in these special classes may gain through increased opportunities for classroom expression and for development of leadership skills.

B. Method

Methodological considerations in establishing a special class program include screening and selecting student participants, curriculum development, inservice education, demonstration, and assisting other school districts in installing and institutionalizing educational innovations and model programs, content, and procedures.

1. Establishment of Special Class Programs. Key factors in the success of special class programs are (1) sufficient adaptation of the curriculum (2) use of capable teachers, (3) appropriate evaluation techniques, (4) consistency of the program with the philosophy of the school district, (5) commitment by administrators and other personnel to the purposes of the program, (6) provision of readily-available and systematically planned consultative and resource help for teachers, (7) adequate inservice and teacher education programs, and (8) careful screening and identification of students. Also important are grading procedures that do not penalize students for being in special groups, unique instructional materials, and systematic steps to develop higher intellectual skills and factors of creativity. Special-class programs incorporate both enrichment of content and experience and flexible progression in both the acquisition of content and in movement through the grades.

2. Initial Procedure. The procedure followed in establishing the special-class demonstration in the Lompoc Unified School District was for teachers of intellectually gifted pupils in grades 4, 5, and 6; a field consultant; and other advisory consultants to work together in developing curricula in science, social science, and mathematics which would advance the purposes of the special-class program. In the process of developing these teaching materials, an attempt was made to communicate to the teachers the rationale of teaching, of learning, and of evaluating problem-solving behavior. Thus, the curriculum-development aspect of the demonstration assumed the characteristics of an inservice program designed to enhance teacher ability to work with gifted students. Beginning in the fall of 1963 the teachers taught the curriculum which had been planned the previous summer. After the first year, the program was evaluated and modifications made. A second special-class demonstration center was established in the Davis Unified School District in Davis, California.

3. Administrative Structures of School Districts Participating as Demonstration Centers Which Featured Special Class Programs. One of the two school districts that served as a demonstration center of special-class programs, Davis Joint Unified School District, encompasses a small university community that is relatively stable and compact. The other demonstration center, Lompoc Unified School District, includes the extensive area around and in the Vandenberg Air Force Base. It is a fast-growing community.

The "high achievement potential" group in Davis was a combination fifth and sixth grade class of pupils selected from the entire district. Students involved (about twenty each year) were transported to the North Davis Elementary School which served as the special-class center. Both the Davis and the Lompoc Unified School Districts had had special-class programs operating prior to their participation in the California Project Talent demonstration program.

At the Lompoc Center there were nine "honors" classes of children who qualified as California State "Mentally Gifted Minors." A total enrollment in these classes varied but was approximately 250 pupils each year. The special classes were classes in grades 4, 5, and 6. Teachers were carefully selected after observation, review of their personnel files, and after interview and discussion of possible involvement in a new and quite likely demanding instructional-developmental activity. Every two teachers were assisted by a part-time aide.

Personnel in the Lompoc Unified School District believe it is desirable to have all of its classes in close proximity in order to promote better communication among its teachers and to promote team teaching.

Screening and Selecting Students for Special Classes. Screening and selection procedures will, of course, depend upon the nature of the program and the nature of the child. Some children fit better into an accelerated special-class program; others profit more by enrichment within the special class.

The two special-class demonstration districts relied upon different measures for screening and selecting pupil participants. Use of the WISC (Wechsler Intelligence Scale for Children) in the Davis Unified School District and their requirement that the child have a high score on both the verbal and performance areas identified the more atypical youngster which this particular school district wished to enroll in a special class program. The psychologist of this district had found previously that the highly verbal or verbally skilled child in Davis was not necessarily the atypical gifted. (A high percentage of the children from this small compact university community are from culturally-rich verbal homes.) Some of the persons using the WISC in the Davis Unified School District felt that it yielded a more well-rounded type of giftedness (for children who achieved a high score) than did the Binet. According to these personnel, children who improved their time credit and improved their performance as the task became more complex, were those who appeared to be "way out".

4. Screening and Identification in the Lompoc Unified School District.

a. Description. The Lompoc Unified School District used primarily standardized test scores for screening and used the Stanford-Binet Scale for most of the individual testing. Teacher referral and individual testing became important because of the rapid turnover of military personnel and entrance into the school district of children who had not previously been screened or tested. One teacher who did a particularly effective job of identifying mentally gifted minors on the basis of judgment indicated that she looked for the ones who came up first with the generalizations in science or social science, who used a high level speaking vocabulary, and who learned the new processes the fastest in mathematics.

The first step in screening in the Lompoc Unified School District was to review all previous test records of pupils in grades 4, 5, and 6 and to seek recommendations from teachers. Individual testing was done by a psychometrist during the summers of 1963 and 1964. Some persons admitted into the "honors program" were admitted by group test procedures which prior to July, 1965 meant that a youngster could be identified as a "mentally gifted minor" if he had a score of 98th percentile or above on a group intelligence test and a score of 98th percentile or above on a standardized achievement test of reading or arithmetic. Teachers noticed a significant difference between children selected by group test procedures and those selected on the basis of scores and performance on individually administered intelligence scales. A few children were admitted on the basis of judgment alone. This is allowable as a method of identification for three percent of the mentally gifted minors identified in a school district in California.

b. Manifestations of Talent. Identified "mentally gifted minors" and pupils in special-class programs for gifted students will manifest great variability in certain characteristics of giftedness such as creativity, artistic talent, verbal facility, leadership, social poise, mechanical aptitude, and motivation. Not all the gifted are tall and healthy, good readers, or highly motivated. Five general categories of ability may require special attention. These are social-empathetic, artistic-creative, kinesthetic-mechanical, symbolic-structural, and verbal-receptive. In the first category are children who are particularly receptive to non-verbal behavior and are particularly sensitive to the feelings, aspirations, and moods of other persons. From this group may be developed outstanding teachers, political figures, and salesmen of ideas or products. By providing opportunities for aesthetic and other types of original artistic-creative production, school personnel may be able to see which students might be interested in and possibly profit especially by special opportunities in this area. Mathematical logic and individualized projects in science may be ways of fostering a high degree of competence in the sympolic-structural area. The verbal-receptive child may have read a great deal and had his verbal facility further enhanced and reinforced by the teacher. Such a child may need opportunities to manipulate concrete objects and to gain skill in non-verbal aspects of talent. This would seem to be an appropriate assumption because most intelligence tests are strongly weighted in favor of verbal facility and because such children appear to profit from opportunities to manipulate objects and to develop non-verbal talent.

In time we may have an expanded definition of intelligence itself--one that recognizes aspects of creativity and creative behavior as manifestations of intelligence--in ways not measured by current intelligence tests. The conceptual work of J. P. Guilford, Bloom et alii, and Bruner may be used in constructing curriculum and counseling modelings to foster this development. (2, 3, 5)

c. Findings and Recommendations Regarding Identification. Because of costs involved in administering individual tests, a compromise procedure may be desirable, one which considers both curricular and economic factors. The California Project Talent educational research project consultant who worked both in Davis and Lompoc submitted the following recommendation for screening and identifying students for special classes:

(1) Administer at the primary level group intelligence tests because these tend to show non-verbal as well as verbal competence.

(2) Refer for further screening those pupils who rank two standard deviations above the mean or who attain an IQ score of 130 plus or minus five points.

(3) Review achievement test scores of pupils who rank approximately 115-129 IQ on a group intelligence test (one to two standard deviations above the mean). Pupils who have both arithmetic and reading scores at or above the 90th percentile should be referred for individual testing.

(4) Consider for placement in a special class program those children who have a Stanford-Binet score of 130 plus or minus 5 points or a WISC score of 130 plus or minus 4.5 points.

It should be noted that the research by C. Pegnato and J. W. Birch[38] on the relative effectiveness of four measures for identifying gifted students found that in order of decreasing efficiency one could use group intelligence tests, group achievement tests, teacher judgment, and grades.

The next step in the identification process is to have the committee review and nominate students for the special class on the basis of all available evidence of general mental ability--including anecdotal and other data in cumulative test folders or case studies as well as psychometric scores.

It should be noted that if a class is directed especially toward the development of leadership and creative talent that these special categories of talent will need to be evaluated individually. In some instances, one might expect to find certain types of special-class programs developed for mentally gifted children who are culturally deprived or who have neurological or emotional handicaps. A nomination committee should consider all evidence of general mental ability as well as other factors relevant to placing children in a given program.

5. Group Counseling of Gifted Children in Special-Class Programs. Counseling is necessary initially to interpret placement of a child in a special program and to help children to see their relationships to other children and to the entire school. In Davis, group counseling involved both teacher and counselor working together in planning discussion topics thought to be particularly appropriate for emotionally healthy superior students in need of intellectual exchange on common problems. Every other week, eight to ten students were involved in group counseling while the remainder of the class worked with the teacher on individual projects. Both cognitive and affective goals governed the counseling-instructional phase of the special class program. Cognitive goals included applying knowledge, organizing ideas, and building relationships. Affective goals included organizing and communicating a student's own value system. The teacher and counselor focused their attention upon the following areas where affective and cognitive domains overlapped: creative thinking, love of learning, quality of conscience, social conscience, and understanding. The small-group counseling period provided opportunities for students to raise questions of a philosophical nature about the nature of life, to test their aspirations with intellectual peers, and to discuss controversial issues. It was assumed that these sessions and periods would result in students developing a strong and realistic concept of themselves and to lay the basis for more effective learning.

6. Curriculum Development. Basic parameters of curriculum planning for the gifted are common intellectual, perceptive, and creative traits of this typology; trait variabilities; organization of the class, environment, and learning experiences; and selection and use of school and community resources. It is important for the curriculum planner to recognize that special-class children will often differ extensively in their rates of learning at any given time and in styles of learning. Aptitude for different tasks will vary within a given child. These factors clearly suggest the need for highly individualized and flexible programs.

a. Materials and Methodology. Notwithstanding this, there are general guidelines which one might follow in planning curriculum materials, teaching strategies, activities, and learning experiences for children described as "gifted." If gifted children tend to be competitive, then it may be desirable to provide some opportunities for self-evaluation and for competing with himself.

Sometimes it might be desirable to minimize competition with other children; at other times it might be highly desirable to encourage such competition.

If gifted children have the ability to manipulate abstract symbols, then it may be desirable to use intellectual as well as affective approaches to gaining aesthetic appreciation, self-understanding, and social interaction.

If the gifted have great persistence and powers of concentration, then it may be possible to have both small-group and individual activities proceeding simultaneously. It is of course desirable to develop standards which would avoid disruption.

If gifted children are motivated to high achievement, then individualized materials such as learning laboratories, kits for study and experimentation, computer-assisted instruction, and other self-instruction materials might allow him to proceed at his own pace in areas of special interest or in areas where he is weak and in need of remediation.

If the gifted show a marked tendency to adapt to changing routines and classroom organization, then it should be possible to incorporate team-teaching, scheduling of assignments and activities and use of resource people on a weekly rather than on a daily basis, study trips, and special events which capitalize on unique or timely learning opportunities.

If the gifted are particularly sensitive to physical environment, it may be desirable to develop displays, bulletin boards, study centers, and exhibits which motivate divergent thinking, creative production, analysis of problems, and in depth individual study of esoteric problems.

If these children exhibit sophisticated social behavior, then it is possible to replace much of the teacher control with group responsibility. Routine matters can be handled efficiently through room officers. Leadership tends to develop quickly in an atmosphere of freedom. Teacher guidance may help the class resolve conflicts by applying democratic processes.

If these children are unusually perceptive, activities may be planned which assume that these children have greater insight and more awareness of their environment, of current events, and of social problems than do children in typical heterogeneous classrooms. Unusual perceptiveness may be the background for creative production in music, poetry, mathematics, and science.

If the gifted are easily motivated, then the teacher role may become one of providing leads, of getting small-group and individual work started, and of subtly asking questions that tend to entrap learners in explorations, enrichment activities, and in forceful convergent problem-solving situations.

In the special-class demonstration, new curriculum development was initiated in science, mathematics, and social science. Changes in mathematics program included acceleration in School Mathematics Study Group (SMSG materials) and enrichment through Madison Project materials and mathematical logic.[55] The science curriculum stressed methods of inquiry and techniques for gathering data and stating and testing hypotheses. Individual science projects were conducted in the areas of special interest such as learning in rats, classification of local marine life, dissection of animals, mutation in plants, preparation and assembly of animal skeletons, and hereditary strains in fruit flies.

b. Social Science. Special-class programs for mentally gifted minors demonstrated in California Project Talent usually incorporated current affairs, student government, and language arts. This was true whether the group was studying world geography at the sixth grade level, United States history at the fifth grade level, or California at the fourth grade level. Most of the project teachers applied either the Guilford "Structure of the Intellect" or the cognitive domain of the Bloom "Taxonomy of Educational Objectives" as conceptual tools in dealing with knowledge and in implementing learning theory. Social science materials developed included content from anthropology, sociology, and political history.

After tryout and revision, curriculum guides were written to outline experiences which had appeal for students in special classes and to describe teaching procedures which stimulated and challenged them. A California Project Talent publication illustrating the direction of curriculum development in the social sciences and illustrating methods of developing higher intellectual skills which could be applied to other content fields as well is "How the Anthropologist Studies Man,"--the Chumash Indians (a resource guide for teachers of fourth grade gifted students).[50] It contains learning activities that were deliberately planned to advance the higher intellectual skills as outlined in the Guilford "Structure of the Intellect."

Conscious use of a theoretical structure proved to be of value to both students and teachers. One teacher extended the use of the Guilford operations to other areas of the curriculum. Another reported that her class developed greatly in which she defined as "thinking power".

Curriculum development procedure resulted in gifted children (1) being oriented to the content and method of a particular social science, anthropology; (2) having extended opportunity for intellectual growth through the use of a theoretical construct, the J. P. Guilford "Structure of the Intellect"; and (3) being involved in organizing standards of documentation.

In the social sciences, children were helped to distinguish between evidence and hypothesis, between what is known and what is believed. They learned the distinctive approaches of the different social science disciplines and to some extent methods of investigating human relationships. Anthropology became the basis for understanding how a culture evolved in a pretechnological group of people.

Modes of investigation which anthropologists might employ with gifted children are: "techniques used to recover artifacts of past cultures, comparisons of culture in different ethnic groups, sequence in the development of cultures (including radiocarbon dating), studies of cities and their evolution, identification of changes in culture, and studies of the causes of cultural change."[50]

"A sequence or procedure for the investigations may be formulated by the class, under the guidance of the teacher. Or the study of an ethnic group may be conducted with some group organization at the end of the unit to clarify the steps which were taken and which could serve as guidelines for future studies. The procedure which follows is appropriate for problems in anthropology although somewhat different from the procedure students learn to use in the physical sciences.

Gather information

Organize information

Select relevant concepts

Explain the relationships between concepts

Formulate hypothesis, principles, conclusions or generalizations

Correlate or inter-relate sequences

Relate present to past."[50]

"Some generalizations which were formulated initially by anthropologists for the State Social Studies Framework were selected and adapted for special classes in the Lompoc Demonstration Center.

> Man is a product of his culture. How he thinks, acts, and feels about himself and others is a reflection, in part, of his society. Human language is a tool for the transmission and invention of culture. Art and music also transmit culture.
>
> Anthropologists have no absolute measure of the excellence or inferiority of culture.
>
> A major problem today is the harmonious co-existence and interaction of divergent cultures of the world.
>
> Ethnic groups can be identified on basis of customs, language, and characteristics.
>
> Populations do not remain isolated, and modern conditions tend to accelerate cultural change.

> The three main humanoid stocks are Negroid, Caucasoid, and Mongoloid. Artificial division of homo sapiens into races by anthropologists is for convenience of description and classification. Races merge imperceptibly into one another.
>
> Physically, human beings are more alike than different. Differences between members of the same stock differ more greatly than differences between members of different groups.
>
> Environment has profound effects on the development of every individual. When he is deprived socially, society as well as individual loses.
>
> Race problems are cultural problems which result from conflict between ethnic groups. Cultural diversity has value and can add to richness of life. Nearly all human beings are capable of participating in and making contributions to any culture."[50]

Political science and inductive geography were also important aspects of the social science curriculum. The latter involved use of an imaginary continent with certain characteristics. From this construct were hypothecated ways in which the culture of economy would evolve.

c. Art. Art experiences were sometimes chosen by a student as a free period activity. Art was used as a method of presentation for book reports or reports on units of study. Teacher-directed activity acquainted students with the use of new media. Material used included acrylic-vinyl copolymer paint, Nuvon art fabric, Sculpt-Metal modeling material, amd Modo-Clay.*

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*Introductory Kit #105. New Master Art Division, California Products Corp., 169 Waverly Street, Cambridge, Massachusetts.

Nuvon Company, 800 West 4th Street, Kansas City, Missouri.

The Sculpt-Metal Company, 701 Investment Boulevard, Pittsburgh 22, Pennsylvania.

Montgomery Studio, Northbrook, Pennsylvania 19361

Gifted children in this special class program responded especially well to intellectual approaches to the history of art and to the study of art theory. The consultant for the special class project reported, "Under special opportunities for self-expression the productivity of special classes far excelled regular classes in the proportion of original pieces of good composition and exciting content."

d. Language Arts. Language arts was usually taught as communication within subject areas, including logic, and comprised approximately half of special summer classes in humanities. Important were analytical observations of individual performance of students. These often showed discrepancies between a child's level of functioning in specific communication areas and his ability.

In the Davis special class program, a class newspaper was used which consisted of columns placed on the bulletin board and which saved the endless hours of typing, dittoing, and distributing. An editor-in-chief was responsible for the board and six editors were responsible for world news, class news, editorials, features, sports, and comics. Each student was on a newspaper committee. Spelling taught via an SRA spelling kit proved quite successful. Children recorded all misspelled words in individual spelling books and periodically developed their own spelling lists around various topics.

Creative writing at one point involved the children's writing a caption and a short story describing a humorous picture. The story voted best story of the week was featured in a class newspaper. Likewise, the children judged which were the best editorials written on current affairs. An all-year project included writing a fiction or non-fiction book on a topic of their choice. A local author of children's books helped to motivate this particular project.

Discussions of the essential aloneness of a human being grew out of reading Madeline L. Engle's A Wrinkle in Time.[10] A junior-high-school textbook, Discovering Your Language,[11] was used to present the structure of language inductively. A listening post and taped lessons on various topics such as "Figurative Language", "Paragraph Keys," and "Shifting Gears in Reading" (33,43,1) were used to strengthen specific language skills. During the project, volumes of books, stories, essays, autobiographies, reports, biographies, and poems were written by special-class children. Poetry was especially popular because ideas could be set down imaginatively, rhythmically, and quickly without extensive handwriting.

e. Reading. Reading achievement levels of beginning fourth graders range from below grade level to that of well-read adults. In some cases sixth grade Project teachers noted minimal grade level achievement at seventh-grade level. In other instances achievement went far beyond the limits of the materials. A major challenge of the Project teachers was to find enough materials that were suited to the children's interests but were also written at levels that would stimulate their need for refinement of reading skills.

Whole-class instruction in reading involved initiating special programs such as the SRA materials, teaching a new skill such as the use of the library, and initiating a special form of literature. It was also used in evaluating procedures and progress and when teaching related activities such as art and creative writing.

Flexible subgroups in some instances involved student discussion leaders and adaptations of the Junior Great Books. Discussion questions were reformulated to emphasize, develop, and evaluate the intellectual processes of divergent production, convergent production, and evaluation as well as those of memory and cognition.

By the sixth grade level, a group of students were ready to learn such college reading skills as adapting reading rate to the nature of the material and the reader's purpose. Students were encouraged to become critical readers and to follow Edgar Dale's suggestion: "Read the lines, read between the lines, and read beyond the lines in various literary forms."

Individualized instruction encompassed approximately half of the school time devoted to literature and reading. Individualized programs involved library reading accompanied by teacher-pupil conferences and/or working in reading laboratories and kits. One class prepared a room library and devised a system for classifying, cataloging, and checking out a 700-volume collection of the children's own books. Scholastic Literature Units were available and used as were SRA reading laboratories. Book reports usually were very brief and creatively devised. Reporting techniques included use of dioramas, dramatizations, monologs, puppets, demonstrations, role playing, and illustrations and charts.

f. Mathematics. Achievement in mathematics seemed to be highly dependent upon previous instruction. Learning which resulted from the student's own initiative appeared to be more prevalent in reading and in science. Because no simple categories were found for classifying gifted students on mathematical aptitude or achievement, an analytical approach was used for planning instruction in mathematics. State-adopted textbooks* and supplementary materials were used. The latter included discovery and manipulative activities. Mathematics Enrichment Books A, B, C,[53] for grades four through six, become the basis for programmed geometry and numeration. These were used in individualized and small-group approaches. State-supplied materials for enrichment of above average students included publications such as Exploring Mathematical Ideas (4); Exploring Mathematical Ideas (5); and Extending Mathematical Ideas published by Ginn and Company in 1963.

To deal with problem of acceleration--which increased the possibility of insufficient mastery of skills and concepts--frequent "do you remember" types of tests were devised. By providing sufficient reinforcement of skills and concepts teachers avoided gaps in mathematical sequence. It was concluded that enrichment materials are necessary to supplement the SMSG materials. These suggestions and those made in the following two paragraphs were made in the spring of 1964 by a special study committee which met at a California Project Talent Workshop in Lompoc to plan the basic mathematics curriculum.

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*For example, Modern Arithmetic Through Discovery (Morristown, New Jersey: Silver Burdett, 1963)

Some Adaptations of SMSG Material. There appeared to be the need for more emphasis upon manipulation skills and for more word problems. Because rational numbers was thought to be a difficult topic as presented by SMSG, it was thought desirable to teach rational numbers after a review of basic multiplication facts. More emphasis seemed to be needed in working in other bases. In teaching long division, the remainder is not expressed as a fraction of the divisor in SMSG. It was recommended that both the divisor-algorithm and the fractional remainder procedure should be taught. It was also thought desirable to use supplementary materials at an earlier time and in a more rigorous manner for teaching the metric system. Because repetition occurs at all grade levels it was considered possible to omit certain chapters at each grade level. In the fifth grade it appeared desirable to teach the measuring of angles with a protractor.

Both hypothetical and practical problem situations should be the context for learning with gifted students. Puzzle problems and complex word problems are ideal in some special class situations. It would also appear advantageous to develop problems that bring to bear on a topic, knowledge, and understandings from a number of disciplines.

Teaching Machine Programs. Teaching machine programs which were found useful in special-classes dealt with algebra, measurement, probability, and sets.

g. Science. Science instruction in the special class programs was planned to help students carry out processes of inquiry and to apply knowledge and skills to problems which they had not previously encountered. An "ology" unit at the Davis demonstration class included looking at paleontology, archeology, anthropology, and geology. A block of time was also allowed for students to study sciences which were not the major science units for the year.

Science topics at Lompoc were those indicated for all children in the Lompoc Science Guide: In the Fourth Grade: Physical Forces, The Atmosphere, Nature of Space, Nature of Weather, Structure of Living Things; in the Fifth Grade: Matter and Energy, Electricity and Magnetism, Sound and Light, Human Organism; and in the Sixth Grade: Astrology and Astronomy, Producers and Consumers, and Soil Chemistry.

It was thought desirable to have students learn the methods of science by being directly involved in conducting investigations. It appeared desirable (whenever possible) to use data available in nature.

The earth was portrayed as an ordered planet with cyclic patterns such as those seen in food chains and the nitrogen cycle (the source of plant food). Children were helped to see the far-reaching effects of altering these patterns. These become clear through examining hypothetical situations. These were dealt with in creative essays encompassed in questions such as:

> "What would happen to all animal life if the plants on earth should all die off?"
>
> "Are carnivorous animals important in nature?"
>
> "What would happen if all parasites died?"

Because order was perceived, it was possible to approach the study of animals in a taxonomic sense beginning with the one-celled animals. Particular attention was given to digestive and circulatory systems and to adaptations made in these systems. One source of helpful information was "Educational Services, Inc.". Units from this organization included "Behavior of Meal Worms", "Mystery Powders", and "Animal Skeletons".

A science project at the fifth-grade level in Lompoc involved "Learning in Rats". This resulted in well-defined hypotheses, carefully controlled observations, precise recording of data, and some very imaginative interpretations of results. These in turn led to additional hypotheses to be tested. Students in this fifth grade class made or assembled their own equipment including a maze patterned after the Wechsler's Maze Test. After these studies, the group proceeded to study human learning. The study of human learning included becoming familiar with the Guilford "Structure of the Intellect". The direct approach to thinking processes (to how animals and human beings learn) stimulated the children to evaluate their own learning and to gain an appreciation of the uniqueness of human abilities.

7. Inservice Education, Demonstration, and Assistance to Districts in Installing and Institutionalizing Educational Innovations, Model Programs, Content, and Procedures. (Developed or Refined by the Teachers, District Consultants, and California Project Talent Consultants).

a. Inservice Education. Special-class teachers in California Project Talent were provided with many inservice education opportunities to enhance their understanding of gifted children and to improve teaching effectiveness in dealing with these children. Initial orientation to the project was carried on through a special summer workshop held in Los Angeles and at the districts where the special classes were to be demonstrated. After-school and afternoon meetings were held with project teachers and their principals during the first year of the demonstration. Four of these meetings were held each year. Such meetings were planned and/or conducted with assistance from experts in gifted child education, specialists in subject matter areas, and other resource persons. Most of the inservice education was accomplished through individual consultation with teachers or through working with teams of teachers.

Inservice education in the Lompoc District included three-day talent development workshops immediately at the close of the school year in 1964 and 1965. The first of these workshops involved the group examining the districts' curriculum guides in mathematics, science, and social science and recommending adaptations that might be used with the mentally gifted minors in the special classes. Considerations were given to providing sufficient freedom for students to function at a high level of intellectual ability while at the same time providing course content which dovetailed into a horizontal and vertical framework. Other considerations were given to acceleration and enrichment in mathematics and to providing enrichment of content organized in the California social science framework. Enrichment in mathematics was accomplished through work in logic. Teachers were involved in five work sessions in study groups conducted between Monday and Wednesday. Both the principals and local coordinators in subject matter areas met with the teachers. In 1965 the workshop was organized on the basis of whole-group presentations and small-group study sessions. During this workshop, social science units were refined, a new discovery-approach unit was prepared in science, and new materials in literature were evaluated. The art coordinator prepared a very successful workshop in art which gave teachers opportunities to perform creatively.

In the summer of 1964 and 1965, California Project Talent conducted cooperatively with school districts and institutions of higher education two summer workshops. These were attended by teachers from all over the State. The workshop which was planned cooperatively with Sacramento State College and with the San Juan Unified School District put key emphasis upon acquainting teachers with the characteristics of gifted children, curricular adaptations, effective teaching strategies, and resources available. Each teacher was provided opportunities to observe three basic kinds of special-class summer programs (acceleration, enrichment, and counseling-instructional programs). They also had a chance to talk with the master teachers and to prepare individual projects that would be of particular aid to them in the fall when they returned to teaching.

Graduate credit was given for these summer five-week workshops.

The California State College at Los Angeles program was under the direction of Dr. Kenneth Martyn. It offered work in three areas: education of gifted children, psychology of exceptional children, and a choice of academic content. Selected candidates for this workshop received a fellowship. Nearby schools provided classroom observation opportunities.

The workshop held at Sacramento State College was under the direction of Dr. Rodger Bishton and Dr. Marion Faustman.

According to coordinators, principals, and teachers attending the Sacramento workshop, the required individual projects gave them the opportunity to carry on such important activities as developing a unit to implement one of the intellectual models applied in developing curricular materials and learning experiences. Library and consultant resources were also particularly good features of the workshop as were opportunities to observe both teaching and counseling. One teacher prepared a format for a case study to be used in his own district. Another prepared a report for his board of education and superintendent. A discovery approach to foreign language and a plan for individualized mathematics were two other individual projects that might be mentioned.

b. Demonstration Activities. Planned demonstrations and opportunities to drop in and observe a demonstration were available to district and county school personnel. One expert in elementary school mathematics in California changed some of his ideas about the possibility of teaching logic to elementary school children after visiting the Lompoc demonstration. The scheduled demonstrations were announced through newsletters, statements at conferences, and by other means. Particularly after the first year (in which occurred much of developmental activity) persons could visit the special classes at almost any time.

c. Assistance to School Districts. A policy developed by the directors of California Project Talent and staff was that California Project Talent consultants would be available to assist nearby and other districts in installing and institutionalizing educational innovations and model programs (content and procedures developed by teachers, district consultants, and California Project Talent consultants) only after personnel from the district involved visited the demonstration. Numerous requests were made for assistance in developing, installing, and institutionalizing special class and enrichment programs.

8. Roles of the Educational Research Project Consultant in the Special Class Program Demonstration of California Project Talent. The following outline and chart portray role specializations performed by the Project consultant:

a. Program Developer

(1) Designer

--Refining the "special class" model

--Preparing curriculum guidelines (e.g. anthropology) that exemplify a taxonomic approach to curriculum construction

(2) Educational Engineer

--Packaging the model

--Adapting it to two highly different school districts

(3) Field Tester

--Of procedures for realizing project goals

(4) Curriculum Consultant

(5) Coordinator of Curriculum Development

b. Diffusion Specialist

(1) Demonstrator

--Building credibility of the special class program prototype

--in face-to-face encounters

--through guided observations

(2) Disseminator

--Informing via articles, speeches, guidelines and announcements of the demonstrations

--Making an effort to get key leaders in elementary curriculum and subject areas to visit the demonstration

--Participating in the summer workshop-demonstration

(3) Installer

--Establishing the program within the two districts

--Establishing the program in gifted-child centers (in certain schools in the school districts)

(4) Institutionalizer

--Building permanence by helping districts make the transition from a pilot or test program to a regular program

c. Demonstration Supervisor

(1) Consultant of teaching personnel

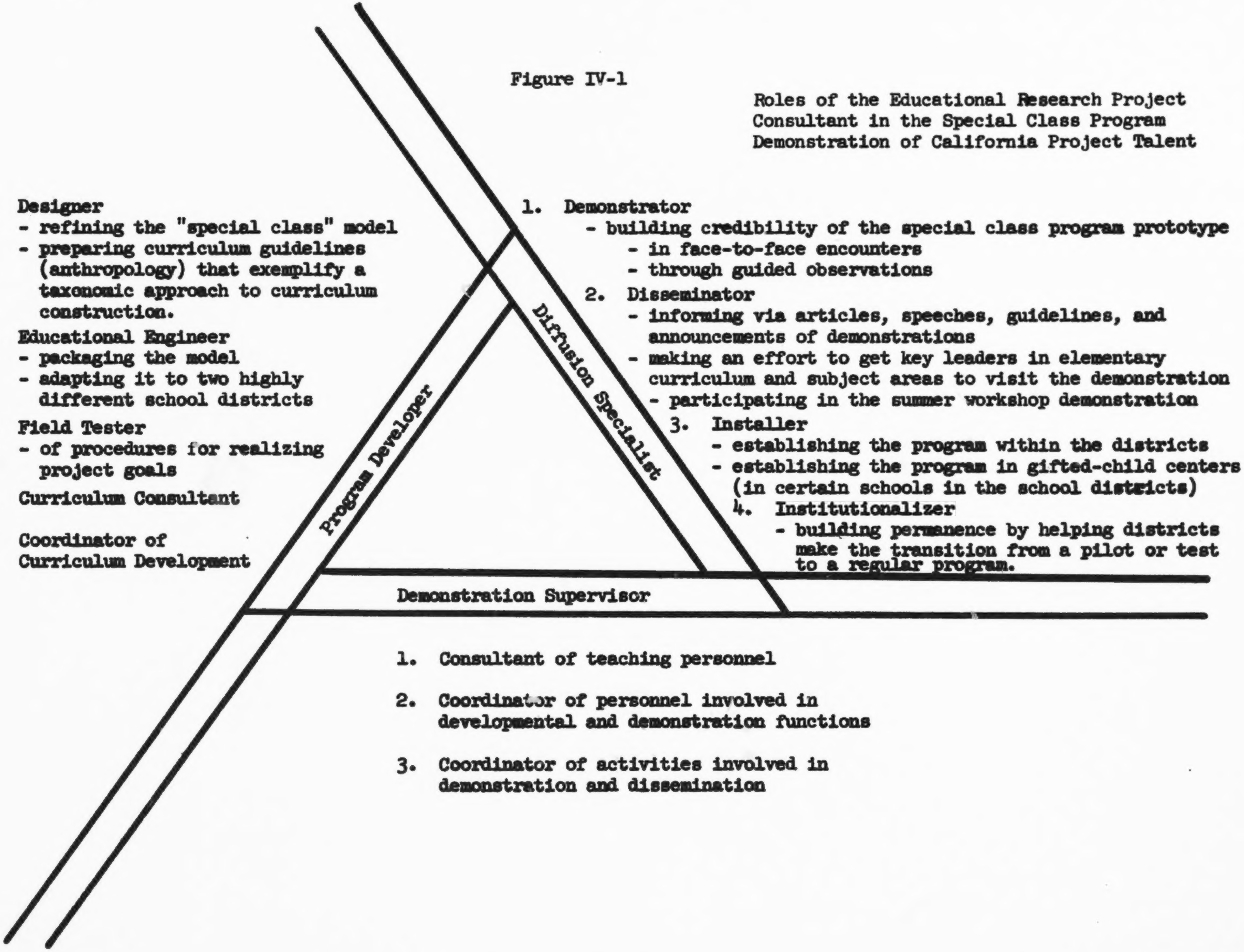
(2) Coordinator of personnel involved in developmental and demonstration functions

(3) Coordinator of activities involved in demonstration and dissemination.

Some of the roles were suggested by the "Classification Schema of Processes Related to and Necessary for Change in Education" by Egon Guba and by previous research reported by Henry Brickell in "Organizing New York State for Educational Change" (1961) and on the basis of observations of both the California and Illinois gifted-child demonstration projects.

Figure IV-1

Roles of the Educational Research Project
Consultant in the Special Class Program
Demonstration of California Project Talent



1. Designer
   - refining the "special class" model
   - preparing curriculum guidelines (anthropology) that exemplify a taxonomic approach to curriculum construction.
2. Educational Engineer
   - packaging the model
   - adapting it to two highly different school districts
3. Field Tester
   - of procedures for realizing project goals
4. Curriculum Consultant
5. Coordinator of Curriculum Development

1. Demonstrator
   - building credibility of the special class program prototype
     - in face-to-face encounters
     - through guided observations
2. Disseminator
   - informing via articles, speeches, guidelines, and announcements of demonstrations
   - making an effort to get key leaders in elementary curriculum and subject areas to visit the demonstration
   - participating in the summer workshop demonstration
3. Installer
   - establishing the program within the districts
   - establishing the program in gifted-child centers (in certain schools in the school districts)
4. Institutionalizer
   - building permanence by helping districts make the transition from a pilot or test to a regular program.

1. Consultant of teaching personnel

2. Coordinator of personnel involved in developmental and demonstration functions

3. Coordinator of activities involved in demonstration and dissemination

C. Results

1. Demonstration Program. It perhaps should be reiterated that California Project Talent was a demonstration and not a research project. The results will have to be interpreted primarily in light of demonstration achievements and development of materials and programs for demonstration and dissemination.

Demonstration and dissemination activities involved the California Project Talent consultants in many appearances at professional conferences. The very positive evaluation given by teachers at the summer workshops indicated that this phase of the demonstration-developmental program was also highly successful.

2. Publications. Developmental activities in the summer included not only the basic curriculur material developed for the demonstrations but the individual teacher projects which were planned for use in the following fall. One of the major publications arising out of the special class demonstration was the anthropology publication, "How the Anthropologist Studies Man--Chumash Indians--A Resource Guide for Teachers of Fourth Grade Gifted Students." This publication was spotted by one of the major authorities in gifted child education in the United States, read, and appraised as being "The kind of thing many right-minded folks interested in the gifted should be looking for". The publication stressed acquisition of basic concepts and an understanding of how anthropologists solve problems. It illustrated how educators can use the Guilford "Structure of the Intellect" as a model for curriculum development. Two publications on surveys of former students in special classes at the Davis Unified School District were also prepared.[2] The consultant working with the special-class program also contributed to the publication of a California Project Talent publication, "Case Study--Identification." The screening and nomination forms in this publication were a valuable inservice or teacher-education resource as well as a guideline for districts developing the case study required by California Mentally Gifted Minor Program. Case-study data became the basis for individualizing instruction.

D. Discussion

The special-class demonstration in California Project Talent was designed to show an exemplary program. While the basic program prototype had already been validated by previous studies, there was the necessity (1) of developing and showing an exemplary program and (2) of assisting districts in creating comparable programs of their own. The whole project and the special-class demonstration tended to substantiate earlier findings on the value of demonstration programs.* These findings collectively undergird current efforts of the U. S. Office of Education to establish exemplary programs under Title III of the Elementary and Secondary Education Act.

A major contribution to program development was the taxonomic approach followed in establishing educational objectives, planning classroom dialogue, giving assignments, and evaluating progress of pupils.

The methods employed for screening and selecting student participants, developing curriculum, and providing for in-service education, demonstration activities, and assistance in installing and institutionalizing model programs may themselves become (in original or modified forms) guidelines for further program development and implementation.

It is obvious that special-class programs can be successful when they are carefully planned, when sufficient consultative assistance and materials are available, when community attitudes have been appraised and are supportive, when care is taken in the selection and placement of pupils in such programs, and when materials are still highly individualized for meeting needs of given students.

The special-class demonstration highlighted the fact that both acceleration and enrichment are proper activities in special-class programs. Also stressed was the importance of planning activities that were particularly suited for the typology of children involved, the sophistication of the teachers, the nature of the community, and the availability of resources.

E. Conclusions, Implications, and Recommendations

1. Conclusions and Implications. The success of California Project Talent in applying conceptual schemes, taxonomic structures,

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*For example, see "Organizing New York State for Educational Change", 1961 by Henry Brickell.

to curriculum development suggests the desirability of further developmental efforts of a comparable nature. These might be not only applying the Guilford "Structure of the Intellect," the Bloom Taxonomy of Educational Objectives, and some of the thinking of Jerome Bruner but also of developing new models based upon dimensions of intellectual functioning, affective experiencing, and creative production. Attitudinal dimensions might also be a part of total plans to improve the quality of behavior in specific intellectual traits and for children at various levels of development. An attempt might be made to do a more thorough job of analyzing the thinking and learning styles of individuals and of providing independent, individualized learning experiences. (22,3,5)

Additional attention might be given to the development of a number of non-intellectual traits that affect rationality, power of thought, and productive divergent thinking.

Attention also might be given to use of now tentative and experimental Ward-Renzulli evaluation scales[60] for assessing programs which purport to provide differentiated education for the gifted. The organization of special classes might at the same time be much more flexible and much more thoroughly developed with respect to use of time, use of teacher personnel, use of outside resources, use of special materials, and use of special data access systems.

2. Recommendations. Although the demonstration program was designed mainly to demonstrate validated program types a number of developmental activities were undertaken, and there are some findings and recommendations.

Some of the findings of the Project consultant would suggest that special-class programs be tailored to the needs of highly-gifted children,* that there be adequate curricular readjustment or adjustment for this program, that secure teachers be selected, that the school avoid complete segregation of students, that instruction be individualized, that the program be kept somewhat inconspicuous, and that the program be backed up with suitable material and administrative support. This consultant prepared a final report on the special class program. In the report, she outlined a program prototype that she saw as easy to initiate, calling for minimal adjustment of regular programs, serving both the gifted and intellectually superior children, and suited to districts of one or many schools. These recommendations are:

a. Districts which provide many types of programs for gifted students might want to limit special-class programs to students who score three deviations above the mean. The organization suggested is that of an ungraded upper elementary or a fifth-sixth grade combination which would also allow a few fourth graders who needed acceleration.

b. Students selected should be achieving in reading and mathematics two standard deviations above the school mean and have an I.Q. score of 130 plus or minus 5 points.

c. Classroom situations could include responsible high achieving children whose strengths might not be reflected by an I.Q. measure.

d. Teachers would work as a team and would emphasize their particular area of competence such as science-social science, reading-language arts, or mathematics-music.

e. Inservice education programs would involve visitation to programs in other districts, time for planning and reviewing new materials, and time for staff interaction.

f. Teachers' attempts at self-improvement would be reinforced by their use of a taxonomy or structure of learning and applying this in developmental efforts to raise levels of student thinking.

g. Materials resources would be such as to allow teachers to do an adequate job of individualizing programs and of providing for the wide range of differences and interests within special classes.

h. To help students with problems of peer acceptance, early anticipation of adult roles, and development of a healthy self-concept, group counseling would be provided these students.

F. Summary

1. Brief Description. The basic reason for this aspect of California Project Talent was to show key parameters of special class programs for intellectually gifted children in grades 4-6 and to suggest how similar programs might be established in other school districts. The special class programs demonstrated were all-day full-week programs for children in the upper two percent of general mental ability. Team teaching was employed in one of the special class demonstration districts as a means of providing coverage of basic academic material by persons with demonstrated competence in specific academic areas.

The areas of instruction principally affected were mathematics, science, and social science; although special-class activities were also carried on in art, music, and English. Mathematical logic and Madison Project Materials were used to enrich mathematics, while acceleration was achieved through use of School Mathematics Study Group Materials. Thus it was possible to demonstrate within a given subject area that special-class programs may lend themselves to enrichment or acceleration or some perceived optimum mixture of both. In science, children were introduced to techniques of formulating and testing hypotheses. They learned how to gather data, ask questions which gave them the basis for hypothesizing, and, in general, how to conduct orderly (or perhaps intuitive) inquiry into the nature of material and the relationship of animate and inanimate matter.

Similar goals were pursued in the area of the social sciences where the emphasis was placed upon acquisition of social science generalizations and knowledge about how a social scientist undertakes to solve problems. Political history, anthropology, and sociology were content from which such experiences were drawn.

2. Objectives. Thus the objectives of the special class programs were (1) to show exemplary special-class programs; (2) to encourage divergent thinking, improvement of evaluation skills, insight into how learning takes place, and application of facts and principles to a description or explanation of relationships; (3) to provide pupils with direct experiences in processes of problem solving in mathematics, science, and social sciences; (4) to provide a rationale of teaching which enables the gifted to function rationally and creatively in leadership roles.

3. Methods Used. Special class situations were established which focused both developmental and demonstration work on realizing the stated objectives of the project and the objectives of this specific demonstration.

Orientation and inservice education activities were provided teachers and other adult participants. These were conducted in summer and during the school year. As the demonstration developed, increased attention was given to applying a taxonomic approach to the statement of instructional goals, to planning classroom dialogue and experiences, and to developing means of evaluating growth in divergent, convergent, and evaluative ability. The Guilford "Structure of the Intellect" was used as a basic guideline in this activity.

Attempts were made to incorporate aspects of new national curriculum projects as well as to use other material found to be especially appropriate with the gifted. Demonstrations were scheduled and announced; they were also available on a less formal "drop-in" basis. Dissemination was also accomplished through presentations at conferences, publications of articles, and the preparation of guidelines and reports.

4. Results. This demonstration attracted the interest of professional educators with specialties in the different subject areas and in gifted-child education. Favorable comments were made regarding the taxonomic approach to curriculum development, publications produced, observations, and presentations by the Project Consultant. A major publication was "How the Anthropologist Studies Man--Chumash Indians--a Resource Guide for Teachers of Fourth-Grade Gifted Students." A very positive evaluation was made by teachers involved in summer workshops and in curriculum development.

5. Highlights and Implications. One of the highlights of the demonstration was the application of case-study data and the Guilford "Structure of the Intellect" to curriculum development and improvement of instruction. In some instances students as well as teachers became acquainted with the "intellectual operations". This, then, became the basis for evaluating classroom activity, teacher performance, and pupil growth. Similarities and differences in the two demonstration districts highlighted the necessity of adapting special-class programs to such factors as the nature of the particular population of gifted children; the educational philosophy of the school districts, administrative, and teaching personnel; the nature of the community; and to the availability of human and material resources.

Certainly this program demonstrated the need for and the value of a multi-dimensional approach to establishing and conducting special classes and to meeting the educational and developmental needs of gifted children and youth. Special class programs can at the same time provide enrichment; flexible progression through learning experiences, content, and grades; and group guidance. It can incorporate key ideas of mankind, training in scientific and mathematical skills, development of communication skills, and acquisition of major content proposed by national curriculum groups. The special class gives the child an opportunity to explore and define his uniqueness in ways possible only in association with intellectual peers. While it may aid the gifted, it should also be recognized that this type of programming may also aid children of lesser ability who in other classes develop new leadership skill and competence in oral expression. One of the key implications of this and the other demonstrations is that basic precepts of American education and of American democracy can be realized as we move from instruction of groups with great heterogenity to instruction of given typologies within special class settings, whether for part or for all of the school day.

6. Future Developments. Experience with the special class setting suggests their value for gifted and for highly gifted children--as an environment in which development of creativity and higher intellectual skills may flourish and as a possible setting for optimum development of advanced concepts, of knowledge of one's capability, and of a realistic concept of self. Future developments may provide children within special classes with special procedures for data retrieval, display, and manipulation; with independent learning activities and materials; and with an array of filmstrips, films, records, tapes, study prints, models, and charts for extending awareness and for studying subject specialties in depth. Also needed and possible is increased freedom for these children to plan where, with whom, and how they will pursue certain aspects of acquiring knowledge and of developing language, research, and other skills. Further development may also include increasing use of interdisciplinary approaches to learning, more attention to improvement of affective and possibly non-rational factors that affect levels of aspiration and performance, and more attention to qualitative aspects of experiences within small-group and full-class situations.

Increased proportion of time may also be devoted to development of analytical, synthesizing, and evaluation skills. Special class programs for the gifted may increasingly become "lighthouses" showing the value of other typological approaches for aiding children and youth.

Program development would be aided greatly by a series of films which would show the gifted using materials developed by national curriculum study groups. These might be keyed to various taxonomic approaches and demonstrate the effectiveness of various strategies of teaching used in special-classes for gifted children and youth.

V. Summary: California Project Talent

The phrase, "California Project Talent" was adopted as the title for a Cooperative Research Project entitled, "Demonstration of Differential Programming in Enrichment, Acceleration, Counseling, and Special Classes for Gifted Pupils in Grades 1-9" (a project commencing April 15, 1963 and terminating December 31, 1966, Project No. D-072, Contract No. OE-3-10-109 funded for $249,603 on April 18, 1963.) This project was based upon earlier research and demonstration of programs for gifted pupils in California. California Project Talent should be viewed as the demonstrational aspect of the Mentally Gifted Minor Program in California. (47, Appendix IV)

The fundamental purpose of this project was to plan, develop, demonstrate, disseminate, and promote differential plans for the education of gifted children and youth. Four specific educational program prototypes including: (1) acceleration through use of the summer school, (2) enrichment in the fine arts, science and the language arts, (3) a cooperative counseling and instructional program, and (4) full-time classes organized for gifted pupils were planned, developed, demonstrated, and disseminated. Special curriculum materials, evaluation procedures, workshop and in-service training techniques, and special teacher aids were invented, developed, utilized in school district settings, and produced for widespread distribution.

Evaluation of action research programs ought to be simple and practical. California Project Talent as coordinated with the California Mentally Gifted Minor Program promoted the following practical results: (1) pupil enrollment in mentally gifted minor programs expanded from approximately 38,000 in 1962 to approximately 90,000 in 1966; (2) as the result of visitation to Project Talent Demonstration Centers, the program prototypes developed have influenced the educational programs in well over half of the districts in California offering mentally gifted minor programs and in a number of school districts in other states; (3) all of the school districts in California have developed and submitted to the State Department of Education acceptable "written plans" describing their mentally gifted minor programs; the vast majority of these written plans demonstrate clear evidence of the incorporation of theoretical models for curriculum development advocated by the Demonstration Centers; and (4) teacher, student, parent, and administrative evaluations of the four program prototypes and the summer workshops have resulted in unequivocal commendations for the goals and accomplishments of these programs.

A. Background and Philosophy

The pioneering works of Terman, Guilford, and MacKinnon, among many research workers based in California, are well known throughout the nation. Their collective works formed a logical basis for a California State Study commencing in 1957 which thoroughly: (1) assessed the educational needs of gifted children in California, (2) studied operational programs for gifted students then in existence in California school districts, and (3) determined the costs incurred by school districts offering special programs for mentally gifted minors. (22, 35, 56)

The "California State Study," under the direction of Dr. Ruth Martinson reported in 1961: "All phases of the evaluation made of programs for gifted pupils included in the state study showed conclusively that special provisions made in these programs were beneficial." Program cost data furnished by the participating districts indicated that the cost of identifying a gifted student amounted to approximately $40. Program costs varied considerably depending upon the type of program offered. Enrichment-type programs in the regular classroom could be conducted, the figures indicated, with extra funds of $90 to $150 per pupil per year. More expensive types of programs, including special classes and counseling programs, cost up to $270 per pupil. These cost data became the basis for initial legislation passed on June 28, 1961. School districts could be reimbursed $40 per pupil per year for excess costs incurred in offering special educational programs for mentally gifted minors. It was thought that this initial legislation would encourage widespread identification of mentally gifted minors. It was further assumed that subsequent legislation would be passed within the next year to augment the excess costs of school districts for implementing the educational program; it was thought that the Legislature would pass a level of financial support up to $240 as recommended in the State Study. However, the existing mentally gifted minor legislation still reimburses school districts only up to $40 per pupil per year. (40, 47)

Steady and spectacular growth in the enrollment of mentally gifted minors has been witnessed since 1961. Growing from a mentally gifted minor enrollment of 38,721 pupils in 188 school districts in Fiscal Year 1961-62, the current enrollment is approximately 90,000 in approximately 300 of the larger school districts in California. Projected enrollment estimates exceed 100,000 pupils by the next fiscal year. (47)

Although recommendations for demonstration centers for the development, promotion, and export of educational programs were advocated at the state level, no special legislation was passed. Therefore, the California State Department of Education applied for and was awarded the Cooperative Research Grant called "California Project Talent."

Six program prototypes are currently being implemented in California schools. These include (1) enrichment programs in regular classes, (2) courses arranged by mail or special tutoring, (3) advanced classes including acceleration programs, (4) cooperative high school--college programs in which high school students attend college classes, (5) special counseling or instruction outside of regular classes, and (6) special classes organized for gifted pupils. The four program prototypes selected for demonstration within the Project Talent Proposal were: (1) enrichment, (2) acceleration, (3) group counseling--instructional programs and (4) special classes. (7, 40, 47)

Preliminary curriculum models and proposed demonstration districts were chosen prior to the submission of the research proposal. The enrichment and counseling programs were established in the Los Angeles Unified School District and the San Juan Unified School District, respectively. Districts chosen partly on the basis of geographical representation to develop and demonstrate the acceleration--summer-school program were the Pasadena Unified School District and the Ravenswood Elementary School District. Demonstrations of special classes organized for gifted pupils in grades 4-5 were developed in the Lompoc Unified School District and in the Davis Unified School District. Overall coordination of the six demonstrational programs in the field was managed by California State Department of Education staff based in Sacramento. Education Research Consultants were assigned special field positions at demonstration centers. The demonstration districts organized, implemented, and staffed the mentally gifted minor programs with state and local funds. In general, the Federal monies were used to acquire state level professional personnel, conduct planning and developmental studies, evaluate programs, and produce educational products such as films, filmstrips, and instructional guides.

Our educational philosophy is briefly summarized as follows:

1. We recognize that children are vastly different in academic potential. Therefore, we have attempted to achieve differential and individualized pupil programming. Contradictory

societal values, which alternately prize unity and diversity, complicated our task. Thus, while aiming for completely individualized academic programs, we compromised and utilized institutionalized differential programming. By deliberately developing program prototypes appropriate for school districts with different philosophical points of view, it was possible to offer almost any school district an acceptable program prototype for consideration and possible adoption. Furthermore, we advocated multiple program prototypes within the same school district. (46)

2. In all program prototypes, we attempted to promote the notion of individual placement by maturational level. The curriculum must be appropriate to the level of intellectual functioning of the child as well as to his social cognizance of issues and problems. Physical placement of the child at a higher level of operation is possible in the acceleration and special classes program prototypes. However, even within the enrichment and counseling programs, the concept of individual placement becomes operational when teachers and counselors individually adjust, rearrange, and substitute more appropriate levels of curriculum for routine, unnecessary, and duplicative units of study. (40, 47)

3. Inventive attempts were made to link all of the program prototypes with modern theories of learning and curriculum construction. Basically, this task involved correlating curriculum content with appropriate intellectual operations and products. Our focus has been upon the human organism and its unique choices and pathways for response. Such practical outcomes were emphasized as: the capability for analyzing and solving problems, self-understanding, thinking strategies, and concept formation. Mere knowledge gathering, storing, and connecting were viewed as secondary goals. (3, 5, 22)

4. An important aspect of program development included the gathering of accurate and meaningful case-study data on every pupil. The primary goal of the case study was to provide information for the sequential placement of students into an array of program possibilities. It provided a data base which enabled the teacher, pupil, and parent to share in making decisions. The emphasis upon placement on the basis of meaningful case study of pupils resulted in considerable curriculum modification and advanced program planning. (Appendix II)

B. Program Development and Dissemination

An action research project "evolves" as opposed to being "developed" in rigidly prescribed ways. While the traditional stages of planning, expediting, revising, and evaluating aspects of the program occur, these stages do not follow prescribed nor orderly sequences. It was anticipated at the initiation of this project that curriculum planning and development, program demonstration and dissemination, followed by export and evaluation of program prototypes would occur in reasonably systematic order. However, this orderliness did not occur. Curriculum development occurred during the entire progress of the project. Limited kinds of evaluation of curriculum content, student behavior, and teacher reactions were necessary in the first months of operation.

Description of this project seems possible in terms of three categories of phenomena including: (1) initial project strategy and logistics, (2) definition of roles and services, and (3) resulting products, programs, and guidelines.

Project strategy made use of existing mentally gifted minor programs in the state. Some programs were embellished and reinforced with infusions of modern learning theories and professional services. State level consultants were assigned to the demonstration districts to refine descriptions of these programs; develop local products needed by teachers and pupils for the implementation of programs; conduct workshops, inservice training institutes, and other services; and disseminate and export the program models to other school districts. Logistically, the entire operation was co-directed from Sacramento through the agency of the California State Department of Education. (40, 47)

In order to carry out developmental phases of this project, traditional roles of state and local level consultants and teachers needed to be reassessed and, where necessary, redefined. For example, an "action research consultant" in the field functions in ways foreign to a more traditional state-level assignment. This consultant needs to be a sort of "jack of all trades". At the same time this consultant must be "master of all of these trades." In short, the lifeblood of an action research project of this sort is the professional staff selected to work in the field on program development, dissemination, and evaluation. We must be able to find in the same person proficiency in writing, knowledgeability and comfort with group techniques, and sophisticated knowledge of the application of advanced research techniques and conceptual designs.

Products forthcoming from an action research endeavor are dependent, of course, upon a number of unforeseen as well as upon controlled variables. Obviously, some programs were in a more advanced state of operation at the commencement of this project. Therefore, it was possible to refine existing materials and export them quickly. We required as a minimal standard the development of refined curriculum guidelines for each of the enrichment, acceleration, counseling-instructional, and special-class program prototypes. These handbooks are in final stages of preparation and should be distributed in 1967. A second order of priority was the concentration upon teacher training, institute, and workshop guidelines. A series of 14 films on enrichment, the descriptions of summer workshops held in conjunction with state colleges, and other documents attest to success in this area. (Appendix III, V)

In addition, administrative, school psychological, and evaluative guidelines were developed and disseminated. Although individual teachers and cooperating project personnel did develop classroom pupil materials, this type of product was not an outstanding contribution of this project. Hence, we had to rely upon existing pupil materials such as SRA Study Kits, Great Books Series, or the materials developed by the Community Resources Project of the San Diego County Superintendent of Schools Office.

C. Special Features and Problems of Each Demonstration

The enrichment program proved to be a sort of universal program for the trying out theoretical models. Three qualitatively different enrichment programs were developed in the fine arts ("critical appreciation"), understanding of literature through writing ("creative expression"), and scientific investigation and methodology ("through an emphasis upon statistics and scientific inquiry"). Analysis revealed that enrichment programs involve as many problems as do other program prototypes. For instance, grouping, clustering, or segregating pupils became an inevitable necessity.

Our special classes, designed for grades 4-5, proved to be a sort of "ideal laboratory setting" for trying out and evaluating higher-level curriculum content. New curriculums were initiated in science, mathematics, and social science. Changes in the mathematics program included incorporation of higher level materials from the School Mathematics Study Group Materials, Madison Project Materials, and units of study in mathematical logic (Suppes-Stanford University). New science curriculum stressed the methods of inquiry and techniques for gathering data and stating and testing hypotheses. Social science materials adopted content from anthropology, sociology, political science and psychology as well as from the more traditional social-science disciplines. Problems encountered by special-class teachers tended to be social and political rather than academic or scholarly. Teacher bias seemed to be as high as parent or student bias against the segregation of gifted students.

The acceleration program succeeded not so much because of any new curriculum introduced, but rather because of the psychological security promoted in a child who perceives that he is "not skipping" any unit of work. An informative research study was conducted by the Pasadena Schools in which three groups of accelerated second-grade students were studied to ascertain their adjustment to fourth and fifth grades. It was found that the students attending the summer school made significantly greater achievement gains as well as demonstrating more psychological and social "toughness" than did pupils who were "skipped".

The greatest problem encountered by acceleration programs appeared to be historical. Many parents had been accelerated in the 1920s and 30s for arbitrary or financial reasons. These programs had no counseling or followup tutoring. Thus, many parents and teachers possessed emotionally laden biases against acceleration type of programs.

The counseling-instructional program attempted to involve teaching and guidance staffs in similar missions. The program appeared to succeed well in the demonstration center. However, export of this program has been disappointing. Possibly at the root of this disappointment is the well-known, but little talked about, interprofessional dissension between professional counselors and teachers.

In our operational program, group-counseling sessions for pupils in grades 7-9 involved discussion of topics which were related to the English and social science curriculums. On alternate weeks guidance-related activities took place within a teacher-led seminar session. Two educational outcomes of this program included: (1) Growth in pupil personality and understanding of the relatedness of social and literary issues to one's self and (2) More dialogue with resultant curriculum modification and change in roles performed by counselors and teachers. The demonstration district reported new and more effective counselor-teacher relationships evolved from this program prototype which wove together the goals and processes of counseling and instruction.

D. Outcomes and Unsolved Problems

The tangible outcomes of this project are manifest in films, guidelines, pupil materials and handbooks produced and disseminated. In the relatively short period of three years, the four program prototypes of enrichment, acceleration, counseling and special classes were produced, demonstrated, refined, evaluated, and exported to foreign school districts and regions. Also, summer workshops were planned, conducted, and evaluated by project staff members. Mentally gifted pupils attended classes simultaneously with teacher participation in the summer workshops. These workshops amalgamated pupil observation and program planning with teacher training and evaluation.

Perhaps the most important outcome of this project, in the long term, will be the demonstration of the feasibility of applying theoretical models such as Bloom's Taxonomy or Guilford's Structure of Intellect Model to the actual construction of curriculum content. (3, 22)

Briefly, the following general outcomes were accomplished:

1. Greatly increased diversity in programs for the gifted in California can be demonstrated. Although there were many requests for Project material, the influence on out-of-state and regional programs has not yet been established.

2. Increased commitment on the part of lay groups, boards of education as well as professional personnel to gifted child programs in and out of the state is obvious from correspondence, and the growth of programs and pupil participation. Also, it can be shown that newly developed programs relate guidance, counseling, and instructional dimensions into their program frameworks.

3. As witnessed by the quality of district "written plans" for gifted child programs, it is readily apparent that the sophistication level of teachers, consultants, and school administrators with respect to characteristics and needs of gifted children has been advanced considerably.

4. Continuation of the demonstration center programs will be carried on in five of the six demonstration center districts. Portions of the highly popular enrichment program

can be demonstrated to have been adopted by well over fifty separate school districts.

5. The effect of these program prototypes on general education programs can be demonstrated. Upgrading of curriculum content has occurred not only in the special programs for the gifted, but also in the total educational programs of school districts.

6. The majority of districts demonstrating or adopting program prototypes established more than one prototype. Our summer demonstration programs, with their accompanying teacher training workshops, demonstrated all four of the program prototypes in articulation with one another. Therefore, it may be concluded that a more diverse range of educational needs of gifted children were met by the adoption of provisions of multiple programs.

7. The objective of "demonstrating specific educational programs for different types of gifted children such as low achieving, high achieving, special problem and other types of youngsters" was our weakest accomplishment. However, it can be shown that the special classes prototype has been adopted by districts wanting to accommodate their "highly gifted" students. Also, the applicability of the counseling instructional program prototype to underachieving students is apparent though not fully demonstrated.

The following brief discussion of unsolved problems should indicate points of departure for future "action researchers." Our overriding problem was that of communication. The impossible task of controlling separate operations separated by hundreds of miles with inadequate administrative staff may be used as our rationalization for the incomplete solution of communication and logistical problems. Also, the reality of existing organizational structures within the cooperating school districts should have been taken into consideration when the initial program prototypes were proposed for establishment in these centers. State civil service regulations allow consultants to function reasonably efficiently within established consultant roles. Most district policies help rather than hinder adaptation of curriculum innovation to the demands of administrative and public relations considerations. However, consultants chosen for creative qualities cannot operate effectively within rigidly defined state standards in districts where policies are highly specialized. Clearly, future action research programs will need to describe a level of staff operation autonomous from rigid state requirements and with sufficient authority to innovate changes in the locality of operation.

One of our most serious handicaps was the lack of sufficient state financial support for the development of quality educational programs for gifted students. The school districts with which we worked had available only $40 of excess cost money per pupil per year with which to identify the gifted and conduct programs. It was apparent that most of these programs could have been more highly refined had there been available a wider range of pupil materials with which to work. Furthermore, demonstration programs were hampered by interpretations of what constitutes "equipment versus supplies". At the elementary school level, much of the need for additional help for students is in the form of educational equipment. However, current state regulations obviate the purchase of equipment. One of the key reasons why summer programs were comparatively successful may be the increased availability of vast stores of equipment and supplies.

This project did not have a "coordinating committee" of outside lay and professional personnel. Therefore, policy was difficult to construct and enforce.

As with many programs for mentally gifted minors in the state, the demonstration program suffered from a lack of adequately trained teachers. Hence, much of the developmental effort had to be diverted to inservice teacher training.

While California Project Talent was adequately staffed to perform the program development, demonstration and evaluation functions, unanticipated problems and insufficient secretarial support caused somewhat haphazard program dissemination and export. Educational programs do not consist merely of written guidelines mailed or handed to other district personnel. The project application recognized that a program may be exported to and adopted by the next district only if it is accompanied by appropriate long term "floating" consultant services. The same group processes must be accomplished in the district of export as were accomplished in the district of inception of the program. This finding of the Project reinforces previous research findings on educational change and dissemination.

The quality and validity of the educational program does not insure its adoption by a foreign school district. Unfortunately, attitudes and other biases of the staff numbers in a new district appear to count more than the proven qualities of the prospective educational program. Those politically opposed to special classes tend to remain opposed to these classes in spite of the best intellectual efforts to show special classes as a valid program prototype. Conversely, underdeveloped programs may be adopted because of their social appeal, not because of their proven usefulness. It would appear that action researchers need to consider more seriously the psychological and sociological implications of educational change. Self-assessment and other procedures need to be considered as ways of changing of emotional and attitudinal predispositions.

To conclude, California Project Talent should be rated as a reasonable success. It has shown that educational programs can be invented, planned, developed, and demonstrated in varied operational settings. Program export has proven possible a crucial factor being the provision of an adequate staff to work with adopting districts. California Project Talent represented a series of steps which developed effective ways of translating educational research into classroom practice. Future demonstration projects, however, should recognize fully the parameters involved in developmental and dissemination efforts within the operational school districts.

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VII. APPENDICES

APPENDIX I.		Individual Placement Project for Academically Talented Pupils in the Elementary Schools: "Application to the Commissioner, Office of Education, U. S. Department of Health, Education, and Welfare, for Funds to Support a Cooperative Research Project Under the Provisions of Public Law 531, 83d Congress."
APPENDIX II.		"Identification - Case Study." California Project Talent. (Sacramento: California State Department of Education, July, 1964).
APPENDIX III.	Part 1.	"The Individual Placement Project - Suggested Curriculum Development for the Third Grade Summer School." J. P. Rice. (Mimeographed paper.) Sacramento: California State Department of Education, December, 1962.
	Part 2.	"Report of a Pilot Summer Session Workshop-Demonstration, 1964." California Project Talent. (Sacramento: California State Department of Education, April, 1965).
APPENDIX IV.		"Revised Guidelines for Establishing and Evaluating Programs for Mentally Gifted Minors." California Project Talent. (Sacramento: California State Department of Education, June, 1964).
APPENDIX V.		"Enrichment Programs for Intellectually Gifted Students" - a Series of Fourteen Films Designed for Teacher Education. California Project Talent, 1965.
APPENDIX VI.		"A Tri-Dimensional Approach to Learning - Possibilities for Maximum Reinforcement in Social Science, English, and Guidance." Paul D. Plowman. (Sacramento: California State Department of Education, October, 1963).
APPENDIX VII.		"Demonstration of Differential Programming in Enrichment, Acceleration, Counseling, and Special Classes for Gifted Pupils in Grades 1-9. D-072." Application for Grant from the Cooperative Research Branch, U. S. Office of Education. Submitted December, 1962.

APPENDIX I

APPLICATION TO THE COMMISSIONER OF EDUCATION, OFFICE OF EDUCATION, U. S. DEPARTMENT OF HEALTH, EDUCATION, AND WELFARE, FOR FUNDS TO SUPPORT A COOPERATIVE RESEARCH PROJECT UNDER THE PROVISIONS OF PUBLIC LAW 531, 83d CONGRESS

Project Title:	Individual Placement Project for Academically Talented Pupils in the Elementary Schools
Submitted by:	California State Department of Education Bureau of Elementary Education 721 Capitol Avenue Sacramento 14, California
Telephone Number:	HIckory 5-4711, ext. 5361, area code 916
Initiated by:	________________________ Dr. Joseph P. Rice, Jr. Consultant in the Education of the Mentally Gifted Bureau of Elementary Education California State Department of Education 721 Capitol Avenue Sacramento 14, California
Transmitted by:	________________________ Dr. Roy E. Simpson Superintendent of Public Instruction and Director of Education California State Department of Education 721 Capitol Avenue Sacramento 14, California
Telephone Number:	HIckory 5-4711, ext. 2700 and 4338, area code 916.
Date:	August 15, 1962

I. Problem.

In view of the need for a simple, inexpensive, yet effective program for meeting the requirements of academically talented pupils, the California State Department of Education proposes to develope, demonstrate and validate an individual placement program for elementary pupils. Miss Helen Heffernan, Chief of the Bureau of Elementary Education, first suggested and described the individual placement program.

This program would involve the identification of more advanced pupils at the end of the second grade. Such academically advanced pupils would be placed, according to their individual needs, into a summer tutoring program which would substitute for the third grade. During their fourth and fifth grades, periodic evaluations would be made to ascertain their progress and special requirements. An individual counseling program would supplement their experiences during the fourth and fifth grades. At the end of the fifth grade, this advanced individual placement group would be evaluated with a view toward placing those pupils with sufficient readiness into a special summer program which would substitute for the sixth grade. Also, talented pupils not earlier identified would be included in the sixth grade summer program, providing they met the experimental criteria. Figures 1 and 2 are a representation of this plan.

Figure 1. A Plan for the Individual Placement of Elementary Pupils

Grade: K 1 2 ↓ (3) → 4 5 ↓ (6) → (Junior High School, or Grade 7)
(S3) Summer tutoring program in lieu of 3rd grade.
(S6) Summer tutoring program in lieu of 6th grade.

Figure 2. Possiblities of Individual Advanced Placement

(1) Pupils placed in S3 and S6 programs (two years advancement)
(2) Pupils placed in S3 only (one year advancement)
(3) Pupils placed in S6 only (one year advancement)

Approximately five percent of pupils in the second semester of the second grade would be identified as sufficiently advanced to enter the special summer individual placement program. This initial group would be studied on a long-term basis in order to collect sufficient data concerning the effectiveness of this program.

It is anticipated that the experimental population will include a significantly higher percentage of girls, due to their well recognized earlier maturation.

Chapman (1) has stated, "Acceleration....has certain advantages that are not contained in any of the other methods." He goes on to say that this method saves money, time and obviates the need for differential and complex programming. However, he warns, "That grade skipping....adjusts the child to the system....the child is entitled to a more logical, sustained, planned curriculum than that offered by skipping." Thus, it can be seen that typical programs of acceleration offer considerable financial, administrative and time-saving advantages, while they may obtain these benefits at the expense of the individual child's needs. This individual placement project holds promise of accomplishing the institutional goals of economy, simple administration and time saving without ignoring the individual child or causing him to arbitrarily conform to a given system. This will be accomplished by: (1) the prescription of thorough differential identification techniques, (2) extensive follow-up study of the individual pupil, including personal counseling, (3) the establishment of special summer programs which will ensure that the pupil covers the required material of the accelerated grade, and (4) the supplying of sufficient consultant help to enable teachers to meet the specialized needs of the individually placed pupils at any grade level.

Should the individual placement program prove to be effective, it would save school districts immense sums. Perhaps as many as ten percent of a typical school population could be accelerated. The savings in human effort and the additional productive years of the youth placed in the program are incalculable. This program is designed to facilitate pupil growth; therefore, no child would ever be forced into the program, nor placed without substantial evidence that he would benefit from the program.

II. Objectives.

The general purpose of the individual placement project is to validate the specific framework for acceleration, which incorporates the substitution of two special summer programs for grades three and six. Since this program retains the advantages of acceleration while eliminating the drawbacks of "skipping grades," it is hypothesized that:

(1) No significant differences between the experimental groups and their grade-placement peers will be found in the areas of:

- a) general academic achievement,
- b) school grades,
- c) social development,
- d) personality development, and
- e) interests.

It is possible that the experimental groups may achieve higher general achievement scores and school grades than their grade-placement peers.

(2) No significant differences between the experimental groups and matched groups who are not accelerated will be found in the areas of:

- a) general intelligence,
- b) general aptitudes, and
- c) indices of maladjustment.

(3) Significant differences between the experimental and matched non-accelerated groups will be found as follows:

- a) The experimental groups will obtain higher social maturity ratings in keeping with their advanced status.
- b) The experimental groups will manifest more mature social behavior, which will be patterned after the behavior of their grade-placement peers.
- c) Self-ratings of academic satisfaction will be higher among groups of experimental pupils and their parents.

d) Individual diagnosis will show more rapid personality development among experimental pupils.

e) The interest patterns of experimental pupils will stabilize earlier along with those of their grade-placement peers.

The data gathered to test the aforementioned hypotheses will in themselves represent a significant contribution. Particularily important will be those data describing the personality, social, and preference characteristics of academically talented pupils in the elementary schools.

The data gathered should enable school personnel to answer the following questions:

(1) Can the individual placement program provide an economical acceleration technique which can be utilized by any type of school district?

(2) Can school personnel safely assume that this form of acceleration will not cause undesirable side effects, such as poor social adjustment, lower school grades, inhibited personality development or confused interest patterns?

III. Other Related Research.

There have been two major movements in the study and evaluation of acceleration. The first of these movements occured in the 1930's; the second, recently in the late 1950's. Both movements have stressed objective studies of accelerated pupils and both movements have tentatively concluded acceleration to be "necessary if we are to meet the needs of gifted students" (10).

Typical of the studies conducted in the 1930's were those of Heer (4) and Keys (6). Heer studied 97 junior high school accelerants from Hazelton, Pennsylvania in 1937 and found that they kept up with or surpassed regular control groups on all academic variables. Keys, in 1938, studied two groups, one group consisting of Oakland High School accelerants, the other consisting of underage students entering the University of California. Both studies indicated "results favoring acceleration." In 1957, Keys (5) again reviewed the research on acceleration and concluded that we "should accelerate bright students in terms of the research findings."

Almost every school district in our nation has probably practiced acceleration in some form. Yet, surprisingly, little research exists to document, describe, and validate this procedure. In spite of the lack of concrete evidence, most educator's have definite views concerning acceleration. Such views are many times based upon attitudes or hearsay rather than documented facts. For example, one of the more common criticisms of acceleration hinges upon the alleged detrimental social outcomes it produces. Yet, substantial evidence exists to indicate that accelerated pupils match or excell the social development of their grade-placement peers (3).

During the 1950's, many pilot programs of acceleration have been attempted. Typically, small groups are involved and no clear experimental plan is followed. Among the more careful studies has been that of Miller (7), in which she studied children in the Evanston, Illinois schools who were six months or more younger than the average of their classmates. Several objective techniques, including measures of reading, general achievement and rating scales, have been used to evaluate these youngsters. In general, the younger children were found to be equal or superior to their older classmates. Also, Miller concluded that various types of programs such as acceleration, enrichment or segregation were equally effective. This would seem to favor acceleration as the preferred technique, since it carries with it the added advantages of getting children to a productive stage in life earlier. Cleveland and Pilch (2) have added weight to the proposition that acceleration and enrichment accomplish similar ends. Neither program can be thought of as "better" in any way.

In 1957, Shannon (9) summarized the existing literature on acceleration by concluding that, "in later life accelerated students perform equal to or superior to non-accelerated students."

Mirman's (8) recent work in Los Angeles on the effects of double promotion in the elementary schools might serve as the point of departure of this study. Mirman's purpose was to investigate the social adjustment of a group of doubly accelerated pupils attending senior high school. He attempted to assess not only the performance of this group but also their attitudes and their parents' attitudes toward acceleration. Mirman concluded that "acceleration could be used more widely....acceleration needs to be an individual matter." He found that "personal adjustment is not appreciably affected by acceleration....this problem can be minimized by allowing the child to skip during the early years of elementary school." In his group, the girls did not encounter as many problems as the boys and did not seem to mind being younger. Mirman felt that, "teachers should discuss the accelerant's special abilities and interests....if more children were accelerated, the result would be to make the accelerated child feel less conspicuous."

It has been indicated that: (1) acceleration is a safe technique, (2) acceleration needs to be implemented by a well thought out program, (3) more children need to be accelerated, (4) accelerated pupils need more attention in terms of special counseling opportunities and follow-up, and (5) the accelerated youngster can be expected to equal or excell his grade-placement peers. In view of these findings, the time seems ripe for pilot programs of acceleration in the elementary schools.

The proposed individual placement program will meet the needs of talented children in keeping with research findings. In addition, the program will provide a framework of summer tutoring experiences and counseling opportunities designed to deal with the anticipated problems of academic, social and personal adjustment. The plan seems to be unique and would provide school districts with a simple, economical and theoretically sound means of meeting the needs of talented and gifted pupils.

IV. Procedure.

The general plan calls for two summer tutoring programs to substitute for the third and sixth grades. Implementation of this plan will fall into three main categories: (1) Individual pupil study, including identification of talented pupils, follow-up study of a psychological nature, and individual pupil and parent counseling, (2) Program facilitation, including plans for two special summer tutoring programs, modified curriculum for regular grades, and consultant help for teachers who must deal everyday with the accelerated children, and (3) Evaluation and follow-up, including objective evaluation by standardized tests, subjective evaluation by means of teacher, pupil and parent attitudes, and comparative evaluation through the use of matched control groups.

A. Experimental and Control Groups. Six larger school districts (i.e. A.D.A. 10,000 plus) would participate as experimental units in the initial study, including three elementary and three unified districts, spread out geographically. Each district would allow the upper five percent of its talented pupils as judged by intelligence, achievement and judgemental criteria to be exposed to the summer (S3) program and accelerated to the fourth grade. Moderate to large school districts would be included in the initial pilot study because they could be assumed to have adequate staff, facilities and special services to meet the needs of the program.

Assuming the participating districts range from 40,000 A.D.A. down to 10,000 A.D.A., the total number of participating accelerants would be 700. A matched control group drawn from nonparticipating districts would be created and followed. The 700 accelerants and the 700 matched controls would be chosen on the basis of: (1) intelligence test scores in upper five percent of general population, (2) achievement test scores in reading, science, English and mathematics in upper five percent of general population, (3) teacher and parent judgements agree with acceleration, and (4) pupil self-rating agrees with acceleration.

B. Experimental Plan. The experimental and control groups would be identified in similar fashion and by using the following criteria: (1) Academic, including teachers' opinions, school grades, pupil's indicated interests, attitudes and estimated readiness, (2) Objective test data, including criterian scores on measures of intelligence, general achievement, personality and social maturity, and (3) Psychological, including individual assessment of personality, maturity and problem areas.

Once identified, the control group would, of course, lag behind in grade placement. However, periodic evaluations would be made of the control groups, along with the experimental groups, to compare their relative achievement and adjustment. Not counting identification, three complete evaluations of the groups would occur: (1) during the fourth grade, (2) at the end of the fifth grade, and (3) during the seventh grade.

Over-all, the project would be planned to include the following phases:

1. Development of Standard Measurements, Forms, Procedures and Reporting Techniques.

   In order to amass meaningful data, participating districts would be asked to use similar methods of record keeping. For example, the following particular items would need to be uniform in order for our results to be comparable: (a) standardized tests used for selection and evaluation of pupils; (b) scores used (percentiles, grade placements, etc.); (c) methods of reporting pupil progress (letter grades, subjective evaluation, etc.); and (d) outlines for parent interview, approval forms, committee certification, guidance reports, teacher evaluation reports, and various rating scales.

2. Modified Activities for Grades K through 2.

   No actual changes in the curriculum would be needed. Teachers would be encouraged to observe talented pupils more systematically and to begin entertaining hypotheses concerning their ability earlier. Teachers would be provided with consultation services. Consultants would emphasize early identification of pupils, enrichment, provision for leadership opportunities, and would discourage any limitations that might be placed upon a child's growth.

3.. Identification of Pupils Prior to Third Grade Summer Program.

Adequate identification of the pupils accepted for individual placement seems basic. At least three types of evaluation seem indicated:

(1) Academic - Teachers' opinions and objective ratings of pupils will be needed. Also, teachers can supply valuable data about a pupil's interests, attitudes, adjustment problems, maturity level and talents;

(2) Parental - Parents would supply the certification committee with valuable developmental, family and social data. Objective rating sheets would be developed for this purpose; and,

(3) Psychological - An evaluation of the pupil's achievement levels, mental ability, interest preferences, social maturity level, and personality functioning would be made.

The evaluation of the initial placement committee would form the basis for a case study. Intellectual evaluation at this level would be based upon individual testing (Stanford-Binet). This testing would form the basis for future comparisons. No child would be denied the advantages of the individual placement program due to some inability to achieve arbitrary standardized test scores, providing other criteria favoring acceleration is found.

4. Special Summer Tutoring Program (S3).

This summer program would include materials typically handled in the third grade. Emphasis upon skill development would be encouraged. Evaluation, including an achievement test battery, would follow this program. For highly advanced pupils, enrichment projects would be provided.

5. Modified Activities for Grades Four and Five.

As in the case of grades K through two, little radical modification would be needed since the children would be advanced chronologically. Consultation services would be available to teachers in the event that problems of social or curricular adjustment arose. Enrichment would be encouraged and no limitations would be placed upon the pupil's progress.

6. Evaluation of Pupils Prior to Sixth Grade Summer Programs.

Evaluation at this level would be accomplished with group devices, since most of the children will have had individual testing at the second grade level. Individual examination might be reserved for those pupils whose group tests vary significantly from earlier findings.

7. Special Summer Tutoring Program (S6).

This program would include materials typically presented at the sixth grade level. There would be a need for more intensive personal counseling of pupils at this level, since they would be preparing to enter the seventh grade one or two years early.

8. Special Adjustment Programs for Grades Seven and Eight, including Evaluation.

Coordination of earlier programs with grades seven and eight seems essential. The children entering these grades one and two years earlier than their peers might present certain adjustment problems in the social areas. The program at this level would be primarily concentrated upon the individual personal counseling of pupils. All pupils would be evaluated at the end of the seventh grade.

At each stage of evaluation, the results from the experimental group would be compared with that of their grade-placement peers and the matched control groups.

C. Data. The data to be collected are summarized below.

Figure 3. Types of Data to be Collected

Type of Data	Method of Collection	Instrument
1. Academic	Analysis of grades, teacher ratings	1. Teacher rating scale* 2. Uniform report card* 3. Cumulative folder
2. Achievement	Standardized tests	1. California Achievement Tests 2. SRA Primary Mental Abilities Test
3. Intelligence	Standardized tests	1. California Test of Mental Maturity 2. Stanford-Binet
4. Interests	Teacher ratings, standardized tests	1. Teacher rating scale* 2. Pupil rating scale* 3. Picture Interest Inventory
5. Personality	Psychological interview, projective technique, standardized test.	1. Clinical interview form* 2. Projective test report form* 3. Rorshach Technique 4. SRA Junior Inventory
6. Social Maturity	Teacher, parent ratings, standardized techniques	1. Vineland Social Maturity Scale 2. Teacher rating scale* 3. Parent rating scale*
7. Satisfaction	Teacher, parent, pupil ratings	1. Teacher rating scale* 2. Parent rating scale* 3. Self rating scale*

*The "rating scales" and "forms" mentioned above would be developed by participating staff members as a part of this project.

D. Analysis. The data would be analyzed by means of standard statistical methods including: (1) "t" tests of the means of all the objective variables mentioned above to determine significant differences among the experimental, control and grade-placement peer groups studied, and (2) for analysis of rating scale data, the numbers of children rated in each group might be compared in terms of the chi square technique.

The hypotheses mentioned above could be accepted or rejected on the basis of these tests. All data would be collected in a form readily adaptable to data processing techniques in order to assure efficient follow-up possibilities.

E. Time Schedule. A suggested time table for the individual placement program is shown below. This project would help to subsidize the first experimental group. The second and third groups would really represent more extensive participation in the program.

Figure 4. Timetable for the Individual Placement Project

Timetable	Pilot Groups			State-wide Program
	1st Group (Experimental Group)	2nd Group (State Supported)	3rd Group (State Supported)	
1963 Spring	Selection/pupils			
Summer	S3 program			
Fall	4th grade	Orient/staff		
1964 Spring	Evaluation	Select/pupils		
Summer		S3 program		
Fall	5th grade	4th grade	Orient/staff	
1965 Spring	Select/Evaluation	Evaluation	Select/pupils	
Summer	S6 program		S3 program	
Fall	7th grade	5th grade	4th grade	Orient/staff
1966 Spring	Evaluation	Select/Evaluation	Evaluation	Select/pupils
Summer		S6 program		S3 program
Fall		7th grade	5th grade	4th grade
1967 Spring		Evaluation	Select/Eval	Evaluation
Summer			S6 program	
Fall			7th grade	5th grade
1968 Spring			Evaluation	Select/Evaluation
Summer				S6 program
Fall				7th grade
1969 Spring				Evaluation

F. Final Report and Anticipated Outcomes. The final report might take the form of a suggested general program for widespread, perhaps national, use. The final report would include refined descriptions of curriculum, identification techniques, forms to be used and procedures to be followed for this unique acceleration program.

In California alone, there were 312,617 second graders during the 1961-62 school year. If 5 percent (15,631 children) or 10 percent (31,262 children) were to be accelerated according to this plan, the savings in money and human effort would be tremendous.

V. Personnel.

The director of the project would be Joseph P. Rice, Jr., who received his Ph.D. degree from the University of Connecticut in the areas of guidance and psychology and is currently Consultant in the Education of the Mentally Gifted, California State Department of Education, Bureau of Elementary Education. Dr. Rice has published articles in the field, developed rating scale forms appropriate for use in this project, developed programs for mentally-gifted minors, supervised psychological personnel and is a certified psychologist.

A full-time project consultant would be hired whose personal qualifications would include: (1) research experience, (2) psychological training and credentials, (3) work with gifted children, and (4) willingness to work with the six widely scattered experimental groups. This person's responsibilities would include: (1) coordination of the project, (2) collection and analysis of data, (3) report preparation, (4) consultant work with participating districts, and (5) development and refinement of evaluation techniques.

Key personnel in each participating district, including at least one psychologist and one curriculum specialist, would be assigned to this project. The psychologist's main responsibilities would be (1) identification of pupils, (2) systematic evaluation of progress of pupils, (3) personal counseling with parents, teachers and pupils, and (4) personality assessment of pupils with the necessary case study. The curriculum consultant's duties would include: (1) curriculum planning, (2) summer program planning, (3) enrichment planning, (4) consulting with participating teachers, and (5) evaluation of programs.

VI. Facilities.

The facilities of the California State Department of Education include: (1) expert consultant help in all curriculum areas, (2) possible utilization of a RCA 301 computer for data processing, (3) key-punch facilities, (4) meeting places for meetings of involved personnel, (5) adequate printing and mailing facilities, and (6) a location central to the proposed activity.

VII. Duration.

The initial experimental project would require three years and six months. It would commence January 1, 1963 and end June 30, 1966.

VIII. Other Information.

a. It is important to note that local school districts will be supplying the entire educational program, including teachers, tutors, supplies and etc., out of their own budgets. Also, the State will supply $40.00 of additional funds per student certified as "mentally gifted" (which would be 40 percent of the 700 pupils in the project). The money requested for this project would be for: (1) additional consultant help, (2) identification and evaluation costs for those pupils who are not legally "mentally-gifted minors," including the control groups, (3) additional supplies, including test materials needed for the extensive evaluation program, (4) data processing, (5) the development of research instruments, such as rating scales, and (6) trained psychological help.

b. This proposal has not been submitted to any other agency or organization.

c. This is not an extension of, or an addition to, a previous project supported by the United States Office of Education.

d. Neither this project nor a similar project has been previously submitted to the United States Office of Education.

IX. Budget.*

Category	Fiscal 1963 6 months		Fiscal 1964 12 months		Fiscal 1965 12 months		Fiscal 1966 12 months		TOTAL 42 months	
	Federal	Local	Federal	Local	Federal	Local	Federal	Local	Federal	Local
Personnel										
Project Director (¼ time)	$	$ 1,588.00	$	$ 3,176.00	$	$ 3,176.00	$	$ 3,176.00	$	$ 11,116.00
Project Consultant (full time)	5,220.00		10,968.00		11,520.00		12,096.00		39,804.00	
6 Field Consultants for Curriculum (½ time)	7,830.00	7,830.00	16,452.00	16,452.00	17,280.00	17,280.00	18,144.00	18,144.00	59,706.00	59,706.00
6 Field Psychologists (½ time)	7,830.00	7,830.00	16,452.00	16,452.00	17,280.00	17,280.00	18,144.00	18,144.00	59,706.00	59,706.00
Secretarial (½ time)	600.00	600.00	1,200.00	1,200.00	1,200.00	1,200.00	1,200.00	1,200.00	4,200.00	4,200.00
Supplies										
Data Processing Forms	200.00		300.00		300.00		300.00		1,100.00	
Standardized Tests	1,000.00	1,000.00	2,000.00	2,000.00	2,000.00	2,000.00	2,000.00	2,000.00	7,000.00	7,000.00
Office Supplies	150.00	150.00	300.00	300.00	300.00	300.00	300.00	300.00	1,050.00	1,050.00
Telephone	200.00	200.00	400.00	400.00	400.00	400.00	400.00	400.00	1,400.00	1,400.00
Postage	100.00	100.00	200.00	200.00	200.00	200.00	200.00	200.00	700.00	700.00
Services										
Test Scoring Services	2,000.00	2,000.00	2,000.00	2,000.00	2,000.00	2,000.00	2,000.00	2,000.00	8,000.00	8,000.00
Statistical	1,000.00		2,000.00		2,000.00		2,000.00		7,000.00	
Programmer Services			2,000.00		2,000.00		2,000.00		6,000.00	
Duplicating		350.00		500.00		500.00		500.00		1,850.00
Travel	750.00		1,000.00		1,000.00		1,000.00		3,750.00	
SUBTOTAL	26,880.00	21,648.00	55,272.00	42,680.00	57,480.00	44,336.00	59,784.00	46,064.00	199,416.00	154,728.00
Overhead (15% of local funds)		3,247.20		6,402.00		6,650.40		6,909.60		23,209.20
TOTAL	26,880.00	24,895.20	55,272.00	49,082.00	57,480.00	50,986.40	59,784.00	52,973.60	199,416.00	177,937.20

*Salaries, service charges, travel costs, etc. conform to the standard rate of this agency.

X. Abstract.

A. Objectives. This individual placement project proposes to develope, demonstrate and validate a framework for acceleration which would enable elementary school pupils to accelerate one or two years without missing any crucial experiences.

Specific hypotheses would be tested, including the following: (1) No significant differences between the experimental groups and their grade-placement peers will be found in the areas of general academic achievement, school grades, social development, personality development and interests, (2) No significant differences between the experimental groups and matched non-accelerated groups will be found in the areas of general intelligence, general aptitudes, and indices of maladjustment, and (3) Significant differences between the experimental and matched non-accelerated groups will be found in the areas and directions indicated: (a) higher social maturity ratings for experimental groups, (b) more mature social behavior on the part of experimental groups, (c) higher academic satisfaction in experimental groups, and (d) more rapid personality development among experimental pupils.

This project is designed to show that: (1) this method of acceleration is economical, simple and adaptable to most types of school districts, and (2) this form of acceleration promotes pupil maturity and causes no undesirable side effects.

B. Procedure. Six large school districts would facilitate an individual placement program by allowing the upper five percent of its academically talented second graders to be exposed to a summer tutoring program in lieu of third grade. This group of accelerants would benefit from individual counseling and enrichment during otherwise normal fourth and fifth grades. For those pupils indicating readiness, a special summer program in lieu of sixth grade would also be provided. Extensive evaluation and follow-up provisions would be made.

For experimental purposes, the accelerants would be systematically compared with a matched control group and their grade-placement peers. Utilizing various sources, including standardized tests, adult ratings, psychological interviews and self-assessment techniques, the following kinds of data would be collected for experimental and control groups: (1) academic, (2) achievement, (3) intelligence, (4) interests, (5) personality, (6) maturity, and (7) satisfaction.

These data would be critically analyzed and compared in view of the hypotheses entertained. The first pilot program would supply sufficient data to justify a second pilot program the following year. Provision would be made for modification at any stage of the project.

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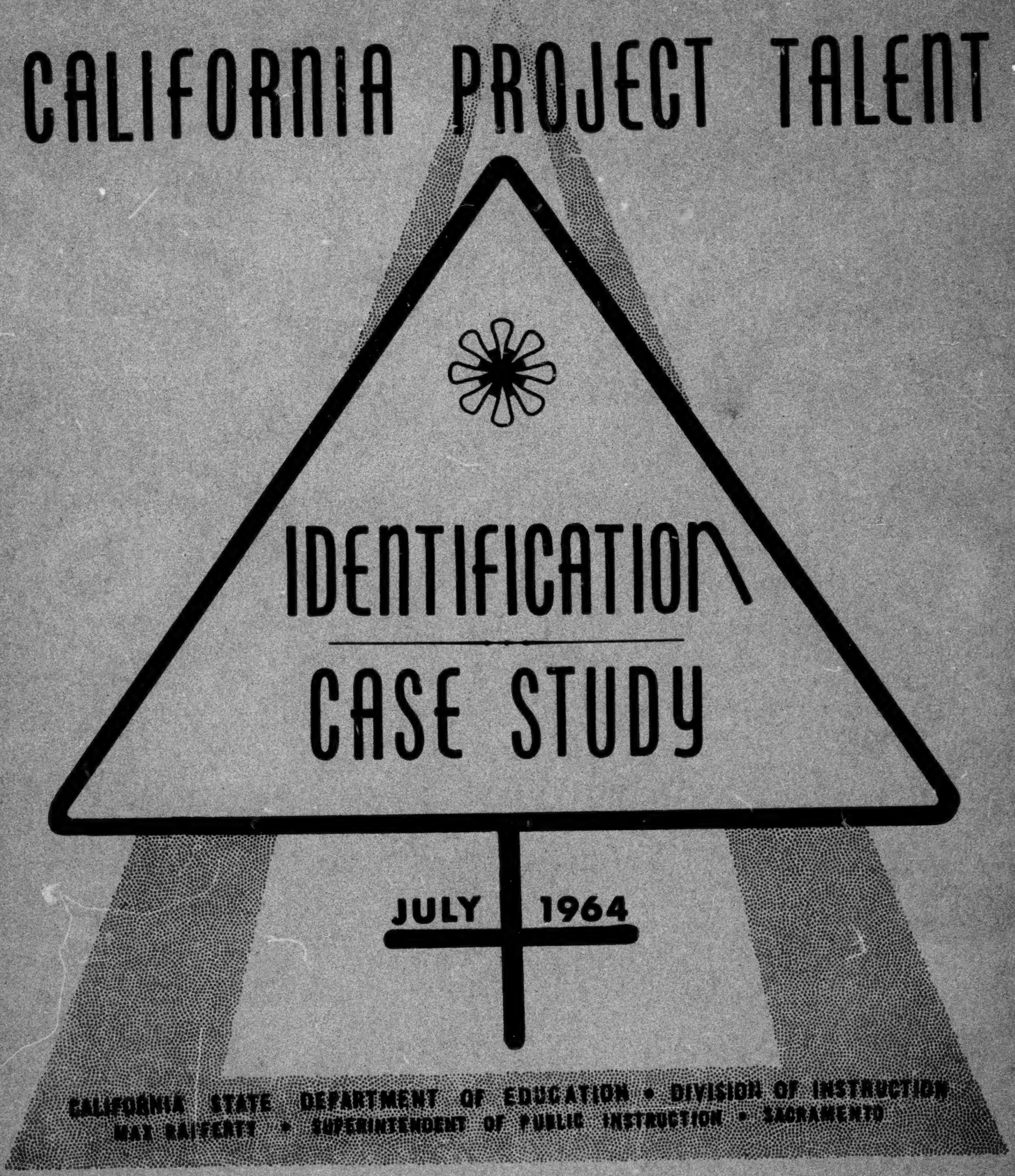
APPENDIX VI

CALIFORNIA PROJECT TALENT



IDENTIFICATION

CASE STUDY

JULY 1964

CALIFORNIA STATE DEPARTMENT OF EDUCATION • DIVISION OF INSTRUCTION
MAX RAFFERTY • SUPERINTENDENT OF PUBLIC INSTRUCTION • SACRAMENTO

Identification 1

*

CASE STUDY

CASE STUDY

Codirectors
California Project Talent

Joseph P. Rice, Jr., Consultant in the Education of the Mentally Gifted, Bureau of Elementary Education

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TABLE OF CONTENTS

Page

FOREWORD

PURPOSES OF THE CASE STUDY 1

SUGGESTED USE OF THE CASE STUDY 2

THE PROCESS OF IDENTIFICATION 3

PURPOSES FOR IDENTIFICATION AND CASE STUDY 4

OUTLINE FOR THE IDENTIFICATION PROCESS 5

THE STRUCTURE OF THE CASE STUDY 6

CONFIDENTIALITY AND ETHICS 7

SUMMARY 8

BIBLIOGRAPHY 9

RELATED REFERENCES 10

Part I BACKGROUND INFORMATION 11
- Confidential Information 11
- Record of Contacts with Student and Parents 12

Part II HEALTH RECORD 13

Part III SCREENING AND NOMINATION FORM 15
- Test Data 15
- Intellectual Functioning 16
- Physical Development 19
- Social Development 20
- Emotional Development 21
- Teacher Recommendation 23

Part IV PARENT INVENTORY 24
- Parental Permission 30

Part V ADDITIONAL RESOURCES AND INSTRUMENTS 31
- Some Experimental Approaches 32
- Intellectual Processes Rating Scale 34
- Development of Intellectual Abilities and Skills Rating Scale 35

Part VI TEACHER AND PUPIL RATING SCALES 39
- Teacher Rating 39
  - Motivational Characteristics 39
- Pupil Inventory 40
- Pupil Rating 43
  - Subject Areas and Activities 43
  - Preferences for Working Conditions 45
  - My Ideal Classroom 45
  - Value Rankings 46
- Children's Writings 48
- Anecdotal Records 51

Part VII TEACHER SUMMARY 53

FOREWORD

Since educators are concerned with meeting individual needs of students, an adequate case study should be an integral part of curriculum planning. The case study materials that have been developed for California Project Talent may be helpful in providing better understanding of children at all ability levels even though they were developed for assessment of students with high potential.

These comprehensive materials are offered as guidelines to districts wishing to improve educational practices. They may be used in their entirety or portions may be selected for use according to interests, policies, personnel, and programs of individual districts. They are adaptable to any kind of program organization.

Multiple purposes of case study development, of interest to administrators and teachers as well as to guidance personnel, are presented. Forms are included which can provide information on the total child; suggestions are made regarding their use. Additional references and recommendations are given. Innovation is encouraged.

PURPOSES OF THE CASE STUDY

What is the purpose of a "case study" in the educational setting? Why is it important for use with talented youngsters, whose success in school may be reasonably assured? Is not identification of potential enough? Should not a case-study approach be reserved for problem children? These may exemplify questions of busy educators and guidance personnel. But there is a rationale for the use of the case-study approach in connection with all methods of programming, including special counseling, individual placement, special classes, or enrichment. Although the particular plan which follows is part of a document concerned specifically with the academically talented, with innovations and adaptations it should be useful with youngsters of all ability levels. The development of these materials is predicated upon a belief in the essential unity of guidance practice and curriculum construction.

Teachers in classrooms do not deal with intellect alone. Simultaneous consideration must be devoted to physical, social, emotional, and attitudinal factors. Emphasis on the content of curriculum alone may neglect the attitudinal complexities involved in the process of learning. An understanding of individual differences must form the basis for day to day curriculum planning. Much of the time, however, teachers are forced to operate on hunches and subjective judgment. If we conceive of the teacher as an "hypothesis-maker" (Coladarci, 1959), then we must view the educational act as a test of these hypotheses.

If education is essentially a scientific, problem-solving process, then teachers require appropriate data. Operation on the basis of limited, inadequate or irrelevant data can result in the formulation of barren or sterile hypotheses about curriculum planning. This is when teaching is apt to become routine. Dull content coverage, which is unrelated to individual needs, may become commonplace.

An adequate case study can become the vehicle for providing relevant data which facilitates the teacher's task. Also, cues for counseling and curriculum planning will be more readily available. Greater efficiency in learning is possible if the teacher can more wisely relate content to the particular needs of the learner.

Work devoted to developing adequate case study forms and procedures may save time and effort in overall planning. Specifically, case study data can help the teacher to:

(1) appreciate individual differences,
(2) capitalize on interests and abilities,
(3) know what sensitive areas to avoid with particular youngsters,
(4) build upon past successes,
(5) provide continuity of experience,
(6) provide opportunities for eliminating deficiencies and gaps in learning and improve upon skills development,
(7) identify pressures with which youngsters must cope and suggest methods of overcoming these,
(8) identify productive areas in which creative processes may be best applied,
(9) appreciate and utilize exceptional skills,
(10) help teachers set up appropriate developmental goals for individual children, and

(11) provide greater cooperation and understanding between home and school.

If teachers have more usable data on children, it may promote attitudinal and behavioral changes on the part of teachers themselves. Changing attitudes of teachers, usually a major goal of inservice education, may be a significant variable in bringing about desired behavioral changes in children.

Active participation of educators and psychologists in the gathering of case study data can help develop a stronger research orientation.

SUGGESTED USE OF THE CASE STUDY

Some key questions to consider in relation to the development of case study data follow.

(1) How much of the data gathered is in a form which can be extracted for systematic research, for follow-up, for group comparisons, and testing hypotheses?
(2) To what extent are teachers involved in analysis and interpretation of data?
(3) How many of the instruments can be utilized in the classroom by the teachers?
(4) Are teachers encouraged to gather objective data to support or refute their own subjective judgment?
(5) Are teachers encouraged to experiment with ways of gathering desired data in the normal course of events, thereby minimizing the need for standardized testing?
(6) Can case study data be given sufficient status in districts to provide released time during the year for teachers to record, rate, plan, and evaluate pupil progress?
(7) Can all concerned with case study development be encouraged to use multiple sources of information?
(8) Can data be gathered which can be used for systematic and individual pupil programming?
(9) Is provision made for the development, validation and standardization of locally produced examinations, forms and questionnaires?

Crucial variables in the learning process have been assumed in the preparation of these case study materials. For example, it was taken for granted that the teacher's background and preparation included experiences in case study techniques and pupil appraisal. It is hoped that new instruments will be added as new measures are developed.

These forms attempt to provide educators with a method for case study collection which is: (1) comprehensive, (2) cumulative, and (3) continuous. It is based upon the assumption that adequate case studies of children can serve the following purposes:

(1) integrate guidance and curriculum,
(2) become a vital technique for inservice education of teachers,
(3) be a major tool of research in child development,
(4) become a catalyst and source of clues for individualizing children's curriculum experiences.

A minimum case study for the screening, identification, and follow-up of youngsters would include the following five sections:

Part I	Background Information Record of Contacts with Student and Parents
Part II	Health Record
Part III	Screening and Nomination Form
Part IV	Parent Inventory
Part VII	Teacher Summary

The teacher's summary of special provisions made for individuals, observed changes in pupils, and recommendations for curriculum planning is especially important in providing both continuity and wise decision-making in curriculum planning.

Particular portions or items can be selected for systematic research, follow-up and evaluation of pupil progress, according to the purposes of individual districts. Additions of all or portions of Parts V and VI to the case study would provide rich data for more complete understanding of children, provided districts have personnel with the time and desire to gather such information.

THE PROCESS OF IDENTIFICATION

Essentially, giftedness can be thought of as the potentiality for significantly superior performance in the areas of intellectual functioning. Giftedness may manifest itself in achievement, scholarliness, and ultimate professional attainment. With adequate preparation and inclination, giftedness may culminate in productivity. Hopefully, the interaction of cognitive superiority with accumulation of cultural knowledge, values and societal expectations will finally lead to self-actualization and personal fulfillment. The identification process should be planned, therefore, so as to gather data describing the full range of the individual's intellectual abilities, assess the individual's productive output, including some appraisal of his capability for innovation, and make some judgments concerning the individual's total personality functioning.

Identification must be a "process" rather than an "act." It is not static. Literally, it is never completed. Its development must be punctuated by frequent and periodic data gathering situations. As these new data feed back into the general case study of a pupil, modifications must be introduced into the pupil's program. Since the gifted pupil is, by definition, significantly deviant from the general population in some if not all intellectual categories, he must be supplied with an educational program uniquely designed to complement his intellectual differences. Such differences include both quantitative and qualitative characteristics. Typically, this human being can function faster and more accurately than others. This indicates the need for more quantity and diversity of materials. Also, he tends to think in ways qualitatively different from his peers. For example, whereas normal primary children typically employ trial and error methods, this child will already be applying various methodologies for problem solving. An approach to problem solving utilizing sophisticated scientific methodology, sampling techniques, various logistic approaches, and the use of mathematical logic would actually be more "practical" for his use even in the early grades. The process of identification becomes integral with the operation of program planning and curriculum construction by providing the teacher with a survey of the pupil's intellectual capabilities and personality functioning.

PURPOSES FOR IDENTIFICATION AND CASE STUDY

Different agencies sometimes have disparate reasons for defining or delimiting a given category. The state must define mental giftedness rather rigidly for purposes of financial assistance. Local districts, on the other hand, will want to be flexible in defining this category. The all-encompassing purpose for identification of a select group will need to stem from a genuine desire to provide differentiated educational programs.

The practical purposes for establishing and conducting identification procedures would include the following:

(1) Certification

A committee, having been provided with operational criteria, will need to certify the fact that certain individuals conform to these criteria and are bona fide candidates.

(2) Placement

Identification must lead to placement of the individual into a new program pattern or sequence suited to his characteristics. Such placement must be justified by the nature of the case history gathered and the prognosis made.

(3) Anticipation of Problems

During the identification, an attempt should be made to anticipate potential difficulties. Of particular importance is the study of the child's social and cultural milieu. For example, do his parents plan realistically for his future? Do his parents or his siblings misunderstand, envy, or in any way disparage his capabilities? Would his placement in a different program place him in an untenable position with his friends?

(4) Prognosis for Success

It is desirable that the individual be considered for placement in feasible programs such as (a) advanced placement of some sort, (b) special grouping or segregation, (c) special counseling or instruction outside of the regular school day, or (d) enriched activities in the regular classroom. Variables which mitigate against special grouping or advanced placement would need to be specified.

(5) Systematic Follow-up and Evaluation

Basic to the case study is the collection of data on a systematic and periodic basis in order to provide feedback for program modification and evaluation of pupil progress.

OUTLINE FOR THE IDENTIFICATION PROCESS

Ideally, the identification process should begin in kindergarten and continue the entire school career. A breaking point in this process occurs at the time of certification. Prior to certification, the identification process tends to be historical. Data are collected concerning the individual's development and a thorough assessment is made of his various potentialities with particular focus upon his mental abilities. Subsequent to certification, the identification process becomes more or less synonymous with the accumulation and use of a case study. The main categories within the case study have, of course, already been described by the kinds of case history and psychometric variables collected.

The first time a pupil is considered for possible certification and program placement, the following steps might be followed:

(1) SCREENING. A battery of group devices might be used to determine whether or not a given group of individuals scored in a significantly deviant fashion. Candidates who do not so score can be easily eliminated from further consideration on an efficient and logical basis. The test battery might include a short-form test of mental maturity, a language skills test, and an arithmetic skills test.

(2) NOMINATION. Subsequent to the screening procedure, a list of possible nominees becomes available. From this list of potential nominees, principals, teachers, and others may attempt to match candidates with appropriate selection criteria provided by their school district and based upon the education philosophy of the district. Nomination forms can be designed to include definitions and criteria for selection. In a sense, nomination forms become identification instruments of sorts because they call upon persons who nominate to supply valid criteria to justify their nominations.

(3) EXAMINATION AND CASE HISTORY. A qualified person such as a school psychologist should assess the intellectual abilities, personality functioning, past achievement, social and emotional adjustment patterns, developmental history, and specimens of productivity of the nominee. A case study form can be designed for this purpose and include questions pertaining to the pupil's attitudes, motivation, special skills, talents, interests, future plans, social maturity, educational background, health and development, home and family relationships, and other significant data. Such a case study can be designed in terms of the kinds of questions we will want to answer about this student's potentiality for inclusion in various program patterns. For example, certain of the areas mentioned, such as attitudes, motivation, and social maturity, may be more significant when advanced placement is considered as a program possibility.

(4) CERTIFICATION AND PLACEMENT. A committee of professional educators, including teachers, trained psychologists, and administrators, should study all of the data collected with a view toward placing pupils in appropriate program patterns. Case conferences with the parents should acquaint them with the data collected and garner their viewpoints as important factors in placement. Placement decisions must be subjected

to constant revision in light of new data. Pupils themselves should play a key role in the placement procedure. If for any reason a pupil does not wish to participate in a given program, his wishes should be respected.

(5) PERIODIC FOLLOW-UP. Periodically the entire case study record should be reassessed in light of new evidence. Mental ability and achievement test results, general aptitude results, indications of vocational interests, academic records of performance, anecdotal notes by teachers, discipline record, opinions and attitude changes of parents, and periodic self-evaluation and appraisal by the student himself are all factors which are considered in the reassessment of a pupil's suitability for certain programs or his need for certain counseling or instructional experiences.

(6) EVALUATION. Evaluation of two sorts needs to occur for ultimate program success. In the first place, each pupil needs to be evaluated on a yearly basis with reference to his increment of academic growth, interest in the special program, and general development in areas other than achievement. A second type of evaluation would ascertain general increments of academic growth. These need to be measured and, preferably, compared with those gains recorded for similar or matched groups. Also, the institution needs to weigh such intangible factors as general faculty morale, public acceptance of the program, general cultural contribution of the program and usefulness and adaptability of techniques and materials for general curriculum development.

THE STRUCTURE OF THE CASE STUDY

California Project Talent has intended this case study to be intensive as well as extensive in terms of the data collected. Survey instruments were developed to "appraise the total child from multiple perspectives in a variety of situations." The case study is designed to collect the following kinds of information:

(1) BACKGROUND INFORMATION. This information would include historical and developmental data.

(2) HEALTH AND MEDICAL RECORD. This would include typical health data including measurements and indications of serious problems, illnesses, or the like.

(3) SCREENING AND NOMINATION FORM. This form is intended to collect from the classroom teacher working in cooperation with the school psychologist the bulk of the background information necessary to make decisions concerning certification and placement of the pupil. The usual test data, cumulative record data, and anecdotal notes from teachers are collected. In addition, a series of specially designed items which lend themselves to multiple choice decisions have been developed to appraise the pupil's intellectual functioning, his interest areas, his performance in terms of actual classroom output, his physical development, his social development, his emotional development, and other potential problem areas.

(4) PARENT INVENTORY. The parent supplies the school with a description of such factors as occupational background, description of the family unit, indications of superior performance in the home, family activities, vocational and other expectancies on the part of parents for their child, the child's typical extracurricular activities, and suggestions for meeting the child's special needs. An inventory similar to that checked by the teacher is administered to the parent. Interesting comparisons of the way in which parents and teachers view the same child can be made. Contradictions would need to be reconciled of course.

(5) PSYCHOLOGIST'S SUMMARY AND EVALUATION. The professional worker organizing the study of the child needs to develop an effective summary and recommendations. He would interpret the data, including a self-appraisal by the pupil.

CONFIDENTIALITY AND ETHICS

Concerning identification, the Gifted Child Committee of the California Association of School Psychologists and Psychometrists has stated:

> "The psychologist has a responsibility to guard against repeated application of group tests directed toward the qualification of as many children as possible. A line must be drawn between legitimate evaluation and re-evaluation on the one hand, and exploitation on the other. Planning for a gifted child must be based upon accurate information regarding exceptional educational needs insofar as possible. In some instances, the psychologist should discourage as well as encourage placement of mentally gifted minors in specific programs.
>
> "Administration of the entire individual test should be the rule in identification, whenever individual tests are used. The complete test protocol should be available for future consideration and evaluation."*

Professional workers should restrict their contributions of data to the limitations of their background and competencies. In general, school psychologists or other qualified pupil personnel workers should collect, synthesize, and analyze case study data. While teachers contribute information and utilize recommendations, they must be cautious when probing into areas such as personality assessment.

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* Gifted Child Committee of the California Association of School Psychologists and Psychometrists, The School Psychologists and the Education of Gifted Children. California State Department of Education, Division of Instruction, September, 1962.

SUMMARY

Initially, a mentally gifted minor should be identified on the basis of all available data. Evidence of giftedness should be gathered from the school, the home, and the pupil. The final certification should be based upon an assessment of the case study record and the child himself "by a committee consisting of the school principal, a classroom teacher who is familiar with the school work of the pupil, a school psychologist or other pupil personnel worker who is fully qualified to administer and interpret tests of mental ability, and any other person or persons designated by the district employee responsible for making the identification."*

The certification committee should view differential program possibilities such as advanced placement, special grouping or program enrichment. Data which indicates the child's performance and value of the program should be collected and reviewed on a regular basis.

---

*Article 23, Section 199.11 of Subchapter 1 of Chapter 1 of Title V of the California Administrative Code.

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Part I

BACKGROUND INFORMATION

(Please record with ball-point pen)

Date ____________________

Confidential Information

Pupil's Name ____________________ Sex: M F Birth Date ____________________

Father's Name ____________________ Mother's Name ____________________

Address ________________________________ Phone ____________________

SUMMARY OF SCHOOL EXPERIENCE:

School	Location	Dates	Grades	Age

PARENTS:

	Father	Mother
Educational Background		
Occupation		
Special Interests and Aptitudes		

DESCRIPTION OF FAMILY UNIT:

Marital status, deaths, other adults in home, etc.	Date

SIBLINGS IN HOME:

Name	Age	Sex	Academic Potential	Date

Record of Contacts with Student and Parents

upil's Name ____________________________

Date	Type of Contact*	Initiated by	Purpose and Summary

*Code: P - phone; L - letter; I - interview; C - conference

Part II

HEALTH RECORD

(Please record with ball-point pen)

Pupil's Name ______________________________

DATA RELEVANT TO PHYSICAL DEVELOPMENT (nutrition, description of body build, appearance, posture, handedness, etc.):

Grade		Entry by	Date

ENERGY LEVEL:

Grade	Low	Moderate			High	Rated by	Date
	1	2	3	4	5		

CURRENT PROBLEMS OR HANDICAPS (speech, hearing, vision, etc.):

Grade	Description	Entry by	Date

CURRENT PROBLEMS OR HANDICAPS (continued)

HISTORY OF ILLNESSES OR PROBLEMS:

Age	Description	Entry by	Date

HEALTH TESTS AND MEASUREMENTS:

Grade	Age	Height	Weight	Teeth	Hearing	Vision	Entry by	Date

RESULTS OF MEDICAL EXAMINATIONS:

Grade	Results	Entry by	Date

Part III

SCREENING AND NOMINATION FORM

(Please record with ball-point pen)

Pupil's Name ______________________________ Teacher ______________________________

Birth Date ______________________________ School ______________________________

Grade ______________________________ Date ______________________________

Test Data

Academic Achievement Tests

Name	Results	Grade	Date

Group Ability Tests

Name	Results	Grade	Date

Individual Intelligence Tests

Name	Results	Grade	Date

Other Tests or Examinations

Name	Results	Grade	Date

Intellectual Functioning

Disregarding test results, would you rank this pupil in the upper five percent f his class in academic performance? In your opinion, is this child "mentally ifted?" Is classroom performance consistent with results of standardized tests?

Upper five percent?		"Mentally gifted?" (by State Criteria)		Performance consistent with tests?	
Yes	No	Yes	No	Yes	No

Check the column which best describes the child's intellectual functioning. These items include a range of possible characteristics or objectives. A child is not expected to be high on all of them.

		Little		Moderate		Much
		1	2	3	4	5
(1) Knowledge and Skills. Possesses a comfortable knowledge of basic skills and factual information.						
(2) Concentration. Has ability to concentrate; is not easily distracted.						
(3) Enjoyment of School. Enjoys academic pursuits and assignments; likes school.						
(4) Persistence. Has the ability and desire to follow through on work; concerned with completion; able to see a problem through.	In own interests					
	In assigned tasks					
(5) Responsiveness. Is easily motivated; responsive to adult suggestions and questions.						
(6) Intellectual Curiosity. Pursues interests primarily to understand or satisfy curiosity; questions the common, ordinary, or the unusual; wants to know how and why; generates questions of his own (in connection with personal interests or group concerns).						
(7) Challenge. Enjoys the challenge of difficult problems, assignments, issues, materials.						
(8) Perceptiveness. Is alert, perceptive, and observant beyond his years; aware of many stimuli.						
(9) Verbal Facility. Shows marked facility with language; uses many words easily and accurately.						

	Little		Moderate		Much
	1	2	3	4	5
(10) Fluency of Ideas. Produces a large number of ideas or products, often very quickly.					
(11) Flexibility. Is able to approach ideas and problems from a number of perspectives; adaptable; able to find alternate ways of solving problems.					
(12) Sensitivity to Problems. Perceives and is aware of problems that others may not see; is ready to question or change existing situations and suggest improvements.					
(13) Originality. Often uses original methods of solving problems, is able to combine ideas and materials in a number of ways, or creates products of unusual character or quality.					
(14) Imagination. Can freely respond to stimuli with the production of mental images; may "play" with ideas or produce remote, fanciful associations or insights.					
(15) Reasoning. Is logical, often generalizes or applies understanding in new situations, expands concepts into broader relationships, or sees parts in relation to the whole.					
(16) Scientific Method. Can define problems, formulate hypotheses, test ideas, and arrive at valid conclusions.					
(17) Independence in Thought. Inclined to follow his own organization and ideas rather than the structuring of others.					
(18) Independence in Action. Able to plan and organize activities, direct action, and evaluate results.					
(19) Independence in Work Habits. Requires a minimum of adult direction and attention; possesses research skills to facilitate independent work.					
(20) Elaboration. Concerned with detail and complexity; often involved with a variety of implications and consequences.					
(21) Aesthetic Appreciation. Enjoys and is responsive to beauty in the arts or nature.					

(22) Describe any unpredictable behavior, such as wandering away from seat without apparent purpose, which interferes with study.

(23) Describe any unusual preoccupations such as "daydreaming" or "flights into fantasy" which lessen the pupil's learning efficiency.

(24) Describe any learning characteristics which seem outstanding or would especially facilitate this child's progress in a challenging educational program.

(23) Describe any learning difficulties the child might have in particular areas which could hinder progress in such a program.

(26) Describe any examples of the child's creative productivity.

The following list of subjects and activities is to be checked for (1) the child's apparent interest, judged by your observations of classroom behavior; (2) performance, judged either by grades or quality of products or actions; and (3) the grade level at which the child seems capable of functioning.

	Interest					Performance					Capability
	Little		Moderate		Much		Low	Aver.	High		Grade Level
	1	2	3	4	5	1	2	3	4	5	
Art											
Construction or Manipulation											

	Interest					Performance					Capability
	Little		Moderate		Much	Low		Aver.		High	Grade Level
	1	2	3	4	5	1	2	3	4	5	
Dramatic Expression											
Handwriting											
Oral Expression											
Spelling											
Reading											
Written Expression											
Foreign Language											
Mathematics											
Music											
Physical Activities											
Science											
Social Studies											

Physical Development

	Little		Moderate		Much
	1	2	3	4	5
(27) Physical Expression. Indicates that physical activities are a comfortable, enjoyable area for self-expression.					
(28) Physical Ability. Co-ordination, timing, agility, and ability to satisfactorily participate in organized games.					
(29) Energy Level. Has available resources of pep and vigor for carrying on most activities					
(30) Physical Appearance. Appears neat, well-groomed; has appropriate clothes for age and group.					

(31) Check the spaces which best describe the child's physical build and posture as compared with the rest of the class.

Physical build:	Posture:
Small stature _____	Good _____
Medium build _____	Average _____
More physically developed than most _____	Poor _____

(32) Describe any important aspect of the pupil's health or physical development which might affect participation in a challenging educational program.

Social Development

Check the column which best describes this child's social development.

		Little		Moderate		Much
		1	2	3	4	5
(33) Popularity. Others seem to enjoy and want to be with this child; frequently seen interacting with others in a social friendly manner.	With same sex					
	With opp. sex					
(34) Acceptance of others. Relates to others with genuine interest and concern; enjoys others; seeks them out; shows warmth.						
(35) Status. Assumes public roles and leadership positions or enjoys considerable status in peer group.						
(36) Social Maturity. Able and willing to work with others, can "give and take," is sensitive to the needs and feelings of others, shows consideration, observes rules of social conduct.						
(37) Sense of Humor. Ability to laugh at himself; gets enjoyment and pleasure from lighter moments in school day, laughs easily and comfortably						
(38) Sense of Well-being. Seems self-confident, happy, and comfortable in most situations.						
(39) Rapport with Teacher. Two-way communication which seems to bring enjoyment to both child and teacher; relatively open, relaxed, and personal relationship.						

(40) Describe any characteristic of social behavior which you feel could interfere with this child's educational progress.

(41) Comment upon the child's apparent capabilities for forming friendships and identifying with groups such as scouts, church or club.

Emotional Development

Check the column which best describes this child's emotional development. Please note that a high score may not be desirable on all of the items which follow.

		Little		Moderate		Much
		1	2	3	4	5
(42) Emotional Stability. Is able to cope with normal frustrations of living; adjusts to change with minimum of difficulty.						
(43) Emotional Control. Expresses and displays emotions appropriately; emotional outbursts rarely occur.						
(44) Openness to Experience. Appears to be receptive to new tasks or experiences; seems able to take reasonable risks; can respond naturally to unusual or unexpected stimuli.						
(45) Enthusiasm. Enters into most activities with eagerness and wholehearted participation; maintains enthusiasm for duration of activity.						
(46) Self-Acceptance. Seems to understand and accept self; able to view self in terms of both limitations and abilities.						
(47) Independence. Behavior usually is dictated by his own set of values; is concerned with the freedom to express ideas and feelings.						
(48) Conformity. Behavior is influenced by expectancies and desires of others.	Influence of adults					
	Influence of peers					

	Little		Moderate		Much
	1	2	3	4	5
(49) Anxiety over Achievement. Seems anxious about achievement; worried or concerned about school work, or the impression any performance makes on others.					
(50) Competitiveness. Has high standards for performance, usually desiring to do as well or better than peers.					
(51) Dominance. Asserts self with influence in a group situation.					
(52) Aggressiveness. Acts with apparent intent to hurt others.					

(53) Describe any emotional immaturity or other personality characteristic which could hinder this child's development.

Teacher Recommendation

After this careful consideration of the child's intellectual, physical, social, and emotional development, do you think he or she could profit from participation in ______________________________?

Yes _____ No _____

Do you recommend that the child be placed in ______________________________?

Yes _____ No _____

What reasoning have you used in making this decision? ______________________________

____

____

____

____

In view of this case study record, check which type(s) of program(s) would be most appropriate for this pupil:

1. Enrichment in regular classes ________
2. Courses by mail or special tutoring ________
3. Advanced classes (acceleration) ________
4. Attend college classes ________
5. Special counseling or instruction outside of regular classes ________
6. Special classes organized for gifted pupils ________

What specific suggestions can you make for curriculum experiences and relationships which will meet this individual child's needs?

____

____

____

____

Signature ______________________________

Date ______________________________

Part IV

PARENT INVENTORY

(Please record with ball-point pen)

Pupil's Name ______________________ **Date** ______________

School ______________________ **Grade** ______________

Birth Date ______________________

(1) Summary of Child's School Experience:

Location	Dates	Grades	Age

(2) Parental Background:

	Father	Mother
Educational Level Completed		
Occupation		
Special Interests and Aptitudes		

(3) Description of Family Unit (marital status, step-parents, other adults in home, etc.)

(4) Significant Conditions or Stresses Which Might Influence School Performance:

(5) Describe early indications of superior ability (speech, interests, physical development):

(6) Check the activities in which your family engages:

	Little	Moderate	Much
Trips			
Concerts			
Museums			
Art Galleries			
Plays			
Picnics			
Movies			
Visiting			
Lectures			
Camping			
Fishing			
Hunting			
Boating			
Swimming			
Other sports ( )			
Other activities ( )			

(7) Describe any problems your child has had (speech, emotional, hearing):

(8) Describe any important aspect of the pupil's health or physical development which might affect participation in a challenging educational program (serious illnesses or handicaps).

(9) What special talents or skills do you feel your child has?

(10) What examples can you give of your child's creative productivity? ____________________

____

____

____

(11) What are your child's vocational aspirations? ____________________

____

____

(12) What are your educational and vocational expectancies for your child? ____________________

____

____

(13) Child's reading interests (favorite books, type of book): ____________________

____

____

(14) Reading materials available for child's use (such as encyclopedias, magazines, etc.):

____

____

____

(15) Amount of child's reading per week (estimate): ____________________

____

(16) What special lessons, training, or learning opportunities does your child have outside of school? ____________________

____

____

(17) Child's hobbies and special interests (collections, dancing, making models, swimming, singing, painting, cooking, sewing, drama, etc.): ____________________

____

____

(18) Discuss your child's attitude toward school (activities enjoyed or disliked, enthusiasms, criticisms, relations to adults, etc.): ______________________________

____

____

____

____

(19) What kinds of development do you feel are most important for your child? __________

____

____

____

____

(20) What suggestions can you give for meeting your child's needs in school?

____

____

____

____

____

Check the following items from 1 (little) to 5 (much) as best describes your child as you see him or her.

		Little		Moderate		Much
		1	2	3	4	5
(21) Enjoyment of School. Enjoys academic pursuits and assignments; likes school.						
(22) Persistence. Ability and desire to follow through on work; concern with completion; ability to see a problem through.	In own interests					
	In assigned tasks					
(23) Intellectual Curiosity. Pursues interests primarily to understand or satisfy curiosity; questions the common, ordinary, or the unusual; wants to know how and why; generates questions of his own (in connection with personal interests or group concerns).						
(24) Perceptiveness. Is alert, perceptive, and observant beyond his years; aware of many stimuli.						
(25) Fluency. Produces a large number of ideas or products, often very quickly.						

	Little		Moderate		Much
	1	2	3	4	5
(26) Flexibility. Able to approach ideas and problems from a number of perspectives; adaptable; able to find alternate ways of solving problems.					
(27) Sensitivity to Problems. Perceives and is aware of problems and inconsistencies that others may not see; is ready to question or change existing situations and suggest improvements.					
(28) Originality. Often uses original methods of solving problems, is able to combine ideas and materials in a number of ways, or creates products of unusual character or quality					
(29) Imagination. Can freely respond to stimuli with the production of mental images; may "play" with ideas or produce remote, fanciful associations or insights.					
(30) Elaboration. Concerned with detail and complexity; often involved with a variety of implications and consequences.					
(31) Aesthetic Appreciation. Enjoys and is responsive to beauty in the arts or nature.					
(32) Independence in Thought. Inclined to follow his own organization and ideas rather than the structuring of others.					
(33) Independence in Action. Able to plan and organize activities, direct action, and evaluate results.					
(34) Physical Expression. Indicates that physical activities are a comfortable, enjoyable area for self-expression.					
(35) Physical Ability. Coordination, timing, agility, and ability to satisfactorily participate in organized games.					
(36) Energy Level. Has available resources of pep and vigor for carrying on most activities.					
(37) Popularity. Others seem to enjoy and want to be with this child; frequently seen interacting with others in a social friendly manner.					
(38) Acceptance of Others. Relates to others with genuine interest and concern; enjoys others, seeks them out, shows warmth					
(39) Social Maturity. Able and willing to work with others, can "give and take," is sensitive to the needs and feelings of others, shows consideration, observes rules of social conduct.					

	Little		Moderate		Much
	1	2	3	4	5
(40) Sense of Humor. Ability to laugh at himself (if necessary); gets enjoyment and pleasure from lighter moments in school day; laughs easily and comfortably.					
(41) Happy Qualities. Seems self-confident, happy, and comfortable in most situations, usually has a cheerful, pleased, or satisfied look on his face; does not seem to worry too much.					
(42) Emotional Stability. Is able to cope with normal frustrations of living; adjusts to change with minimum of difficulty.					
(43) Emotional Control. Expresses and displays emotions.					
(44) Enthusiasm. Appears enthusiastic about life; enters into most activities with eagerness and whole-hearted participation.					
(45) Self-Acceptance. Seems to understand and accept self; able to view self in terms of both limitations and abilities.					
(46) Independence. Behavior usually is dictated by his own set of values; is concerned with the freedom to express ideas and feelings.					
(47) Dominance. Asserts self with influence in group situations.					
(48) Aggressiveness. Frequently acts with apparent intent to hurt others.					

Name ______________________________

Relationship to Child ______________________________

Parental Permission

If, after consideration of your child in relation to recommendations made for his or her educational experiences you are in agreement with the proposal that your child participate in the ______________________________ program, please sign below.

Signature ______________________________ Date ______________

Reasons for granting permission: ______________________________

____

____

____

____

Part V

ADDITIONAL RESOURCES AND INSTRUMENTS

Case study development need not be limited to the materials included in this document. There are many sources of information about additional instruments which might be used in the classroom. The few references which follow are particularly relevant to the rationale which is presented with these materials. They also provide specific descriptions and explanations of data gathering devices. They should be helpful in both inservice education of teachers and data gathering:

Anastasi, Anne, Psychological Testing, New York: The Macmillan Company, 1961. This volume covers the field of psychological testing; it includes an analysis of the problems involved in measurement, critical analysis of all kinds of tests (including those generally used only by trained psychologists), and perspective on encouraging and needed trends in the development of measuring instruments.

Cunningham, Ruth, Understanding Group Behavior of Boys and Girls, New York: Teachers College, Columbia University, 1951. A pioneering study in the use of measuring instruments in the classroom, this book describes a variety of approaches to studying group interaction patterns and the individual's relationship to the group. Among the many techniques included are detailed descriptions of the following: sociograms, social distance scale, social analysis of the classroom (who's who or social reputation form), children's writing, observations and anecdotal records. Ways of relating curriculum experiences to individuals' needs and involving parents as co-researchers are also covered.

Martinson, Ruth A. and Harry Smallenburg, Guidance in Elementary School, Englewood Cliffs, New Jersey: Prentice Hall, Inc , 1958. The unity of guidance and curriculum is made clear in this book. Specific explanations and samples of the following instruments and techniques are included: anecdotal records, children's work, interviews, medical examinations, questionnaires for children and parents, measures of social relations (social distance scale, completion forms for children's reputations in the group), biographical data, rating scales and check lists, reaction forms, role playing, testing, school records, parent relations. It outlines an effective, planned guidance program at the elementary level.

Sears, Pauline S. and Vivian S. Sherman, In Pursuit of Self Esteem, Belmont: Wadsworth Publishing Company, Inc., In press, Spring, 1964. This is a volume of case studies of eight elementary age children who were part of a larger study undertaken to determine the effect of classroom conditions on the strength of achievement motive and work output. It includes a description of the research, the instruments used in gathering data, and the children's actual scores on objective tests. The case studies are a synthesis of both objective and subjective data: they show the changes which occurred in these youngsters over the two-year period of the fifth and sixth grades as they interacted with two different teachers, the classroom groups, and the curriculum experiences they were provided. These cases clearly show how knowledge of the total child, gathered from multiple sources over a period of time, could make a significant difference in educational planning, in wisely relating curriculum experiences to individual learners. Specific instruments used were: teacher ratings, peer nominations, social distance scale, attitude toward school subjects and activities scale, achievement and "intelligence" tests, divergent thinking tests, value rankings, time sampling of classroom behavior, interest inventory, self concept inventory, Alexander Adult Child Pictures, Thermatic Apperception Test, Rozenweig Picture Frustration Test. Additional sources of information included parent conference reports and questionnaires, report cards, children's writings, classroom observations, child and teacher interviews, periodic teacher dictations of impressions of children, ratings of classroom reports, sentence completions, and open-ended problem stories.

Taba,Hilda, With Perspective on Human Relations, Washington, D. C.: American Council on Education, 1955.

Taba, Hilda, et al, Diagnosing Human Relations Needs, Washington, D. C.: American Council on Education, 1951. These two books describe ways of understanding young people's social-emotional needs and of providing appropriate curriculum experiences for them.

SOME EXPERIMENTAL APPROACHES

There are several significant trends in education: increasing awareness that intellectual ability is multidimensional and modifiable; greater emphasis on expanding the concept of giftedness beyond verbal and quantitative ability; the use of theoretical models in curriculum development and evaluation. New methods of measuring (1) achievement, (2) varied cognitive abilities, and (3) creative performance will be needed to supplement achievement measures currently in use.

Much pioneering and careful validation will be needed as educational practices move into these relatively unexplored areas. Although caution in the use of new instructional assessment procedures is appropriate, experimentation and testing are needed. Reliability and/or validity considerations may need to be resolved before advocating widespread use of new tests or new methods.

Current concern for "creativity" has stimulated interest in tests of divergent thinking. The psychologist may be tempted to consider these tests as predictors of creativity or for identification of an inborn "creative" talent. It should be noted, however, that there is much more to creative productivity than the ability to give uncommon responses to an unusual stimulus. There also is evidence that divergent thinking skills can be developed. Complexities involved in the realm of creativity are made clear in the following volume:

> Parnes, Sidney S. and Harold F. Harding, A Source Book for Creative Thinking, New York: Charles Scribner's Sons, 1962. This is recommended reading because it includes points of view of careful students of the field as well as descriptions of many different measuring instruments.

The development of so-called "creativity" tests is still in the research stage; little is known about what they measure in different populations or content areas and at varying ability and age levels. Some background in the area is desirable, particularly in evaluating over-simplifications regarding what creativity tests measure. It is reasonably safe to conclude that they do indicate a freedom to respond in an unusual way; they can be used as diagnostic devices for developing cognitive characteristics of fluency, flexibility, originality, etc., as well as for determining which youngsters might need to develop greater confidence in the worth of their own ideas or to increase freedom of expression. They can become one basis for grouping. In addition, they can be a valuable supplement to teacher ratings on such characteristics. For instance, the case study screening and nomination form includes ratings of many characteristics (emotional as well as intellectual) believed associated with creative ability. Tests of divergent thinking can be used as evidence to support ratings for some of these dimensions. They also can be used as one means of evaluating development of individual students.

The difficulty of scoring tests which, by their very nature, require uniqueness, must be kept in mind. They do require some specialized knowledge to score. Scoring keys based on frequency distributions are apt to be limited to the particular population which generate these responses. Cultural and geographical variations will influence the applicability of both categories for flexibility and degree of originality. There must be concern for quality of response, as well as infrequency of occurrence. Yet such tests can show the range of individual variation within a particular group or school, thereby adding to the knowledge of children.

Programs for the mentally able must include the widest possible range of intellectual functioning. Two important conceptualizations which broaden the scope of such behaviors are given in:

Guilford, J. P., "Three Faces of Intellect," American Psychologist, 8 (1959), pp. 469-480.

Bloom, B. S., Taxonomy of Educational Objectives, New York: David McKay Company, Inc., 1956.

There are many other useful constructs, i. e., the scientific method, inductive-deductive reasoning, reflective thinking (Dewey), stages in creative thinking (Wallas), inquiry skills (Suchman), discovery approach, etc. These may lend themselves more easily to some content areas or activities than to others; there has been insufficient application of these theoretical formulations in practical situations. A useful reference which describes some of these in relation to curriculum planning is:

Gallagher, James J., Teaching the Gifted Child, Boston: Allyn and Bacon, Inc., 1964.

The following rating scales are examples of the kind of idea implementation needed in public education. These are reprints of forms that were adapted from the Guilford and Bloom conceptualizations by Dr. Marcella Bonsall, Director of Research and Guidance, for use in Los Angeles County.

Los Angeles County Superintendent of Schools
Division of Research and Guidance
PROGRAMS FOR THE GIFTED

Experimental Draft

INTELLECTUAL PROCESSES RATING SCALE *

Name________________________ Birthdate______________ Grade________

Teacher_______________________ District______________ Date________

Please rate each and every statement by putting an X in the appropriate square after each statement. The squares are numbered 1 to 5 and represent the degree to which you have noticed the described intellectual process. The bases for making a judgment are given below:

1. You have not noticed this process.
2. You have noticed this process to a slight degree.
3. You have noticed this process to a considerable degree.
4. You have noticed this process to a large degree.
5. You have noticed this process to a very large degree.

INTELLECTUAL PROCESSES

	RATING SCALE				
	1	2	3	4	5
Cognition: The process of discovery, rediscovery, recognition, comprehension, understanding.					
Memory: The retention of information in any form accumulated through in-school and out-of-school experiences.					
Convergent Production: The production of information from given information where the emphasis is upon achieving conventionally accepted or best outcomes.					
Divergent Production: The production of information from given information where the emphasis is upon a variety of ideas from the same source.					
Evaluation: To reach decisions or make judgments concerning the goodness (correctness, suitability, adequacy, desirability) of information in terms of criteria of identity consistency and goal satisfaction.					
Subtotals (one for each X in each column)					

Totals of all columns: ....________________________

---

* Adapted by Marcella Bonsall from: Guilford, J.P., and Merrifield, P.R. "The Structure of Intellect Model: Its Uses and Implications", Reports from the Psychological Laboratory, No. 24. Los Angeles: University of Southern California, April, 1960

Office of Los Angeles County Superintendent of Schools
Division of Research and Guidance

Experimental
Draft

PROGRAMS FOR GIFTED

DEVELOPMENT OF INTELLECTUAL ABILITIES AND SKILLS[1]
RATING SCALE

Name ______________________ Birthdate ________________ Grade __________

Teacher ____________________ District _________________ Date ___________

Please rate each and every statement by putting an X in the appropriate square after each statement. The squares are numbered 1 to 5 and represent the degree to which you have noticed the described intellectual ability and skill. The bases for making a judgment are given below:

1. You have not noticed this intellectual ability and skill.
2. You have noticed this intellectual ability and skill to a slight degree.
3. You have noticed this intellectual ability and skill to a considerable degree.
4. You have noticed this intellectual ability and skill to a large degree.
5. You have noticed this intellectual ability and skill to a very large degree.

INTELLECTUAL ABILITIES AND SKILLS

KNOWLEDGE is to find in a task or problem the appropriate signals, cues, and clues which will bring out stored knowledge.

Knowledge of Specifics: To recall specific and isolable bits of information (very low level of abstraction).

Knowledge of Terminology: To know the referents, most appropriate to a given use of specific verbal and non-verbal symbols.

Knowledge of Specific Facts: To know dates, events, places, etc., with precision or approximation.

Knowledge of Ways and Means of Dealing with Specifics: To be aware of organizing, studying, judging, criticizing patterns of organization.

RATING SCALE

1	2	3	4	5

---

[1] Adapted by Marcella Bonsall from: Bloom, Benjamin S., Editor, Taxonomy of Educational Objectives, pp. 186-192. Test - Item Folio No. 1, Questions and Problems in Science, Section III Appendices. Princeton, New Jersey: Educational Testing Service, 1956.

INTELLECTUAL ABILITIES AND SKILLS (continued)

	RATING SCALE				
	1	2	3	4	5
Knowledge of Conventions: To be conscious of the characteristic way of treating and presenting ideas and phenomena.					
Knowledge of Trends and Sequences: To know the processes, directions, and movements of phenomena with respect to time.					
Knowledge of Classifications and Categories: To know of the fundamental classes, sets, divisions, and arrangements of a purpose, a problem, etc.					
Knowledge of Criteria: To be aware of the criteria by which facts, principles, opinions, and conduct are tested or judged					
Knowledge of Methodology: To be aware of the methods of inquiry, techniques, and procedures employed in investigating phenomena.					
Knowledge of the Universals and Abstractions in a Field: To know the major ideas, schemes and patterns by which phenomena and ideas are organized. (Highest form of abstraction and complexity)					
Knowledge of Principles and Generalizations: To recognize the abstractions which are of value in explaining, describing, predicting, or determining the most relevant action or direction to be taken.					
Knowledge of Theories and Structures: To know the body of principles and generalizations together with their interrelations which present a clear, rounded and systematic view of a complex field. (most abstract formulations)					

COMPREHENSION is to know what is being communicated and to use the idea even though not seeing the fullest implications.

TRANSLATION: To paraphrase, to render, to alter the form of the original communication with accuracy					

INTELLECTUAL ABILITIES AND SKILLS (continued)

RATING SCALE

	1	2	3	4	5
INTERPRETATION: To explain or summarize the communication by reorganization or rearrangement.					
EXTRAPOLATIONS: To extend the given data to determine implications, consequences, corollaries, effects, etc., in accordance with the original communication.					

ANALYSIS is to break down a communication into its elements or parts to clarify the hierarchy or the relation of ideas.

ANALYSIS OF ELEMENTS: To distinguish between facts and hypotheses and to recognize unstated assumptions.					
ANALYSIS OF RELATIONSHIPS: To recognize the connections and interactions between elements and parts of a communication.					
ANALYSIS OF ORGANIZATIONAL PRINCIPLES: To recognize the form, pattern, and structure, both explicit and implicit, which makes the communication a unit.					

SYNTHESIS is to put together elements and parts into a whole pattern or structure not clearly there before.

PRODUCTION OF A UNIQUE COMMUNICATION: To communicate ideas, feelings, and experiences of others.					
PRODUCTION OF A PLAN OR PROPOSED SET OF OPERATIONS: To develop a plan of work, or a proposal of a plan of operations, that satisfies the requirements of the task.					
DERIVATION OF A SET OF ABSTRACT RELATIONS: To develop a set of abstract relations either to classify or explain phenomena, or to deduce propositions or relations from a set of basic propositions or symbolic representatives.					

INTELLECTUAL ABILITIES AND SKILLS (continued)

RATING SCALE

	1	2	3	4	5
EVALUATION is to judge the value of purposes, ideas, methods, etc., involving criteria as well as standards of appraisal.					
JUDGMENTS IN TERMS OF INTERNAL EVIDENCE: To evaluate the accuracy of a communication by the logical relationships evident in it.					
JUDGMENTS IN TERMS OF EXTERNAL CRITERIA: To evaluate the material with reference to selected or remembered criteria.					
Subtotals (one for each X in each column)					

Total of All Columns . . . . ________

Knowledge	Comprehension	Analysis	Synthesis	Evaluation	TOTAL

(Application ratings are omitted because most of what is learned is intended for application to some problem in some situation. Also, application is dependent upon how well a student carries over into situations never faced in school, therefore, it is difficult to evaluate.)

#31465
MRB:vo
2/19/63

Part VI

TEACHER AND PUPIL RATING SCALES

Teacher Rating

(Please record with ball-point pen)

Pupil ______________________________ Rated by ______________________________

Grade __________________ Date ________________________

Motivational Characteristics

Check the following items according to what best describes your observation of the child's motivation and satisfaction.

	Little 1	2	Moderate 3	4	Much 5
Seeks to gain status socially					
Seeks to gain status academically					
Seeks to gain status athletically					
Seeks to gain affection from peers					
Seeks to gain affection from adults					
Finds satisfaction via peer relationships					
Finds satisfaction via adult relationships					
Finds satisfaction via popularity					
Finds satisfaction via being a good athlete					
Finds satisfaction via following own interests					
Finds satisfaction via being a good student					

Check the following activities according to your observations of the child's (1) enjoyment and (2) freedom of expression.

	Enjoyment					Freedom of Expression				
	Little 1	2	Moderate 3	4	Much 5	Little 1	2	Moderate 3	4	Much 5
Writing										
Music										
Art										
Speaking										
Dance or physical activities										
Drama										
Construction or manipulation										
Other										

Pupil Inventory

The following instrument may be used either as a checklist for interviewing students or as an inventory to be completed by the students themselves.

If used as an interview checklist, the person doing the interviewing can structure the questions and simply fill in the responses as the student discusses various areas. The interview should be informal, and care should be taken that the student responds with his or her own feelings, rather than with that which is considered to be expected. Leading questions on the part of the interviewer can communicate such expectations. The order of items might be changed to suit the trend of the interview.

If used as an inventory, the student may be instructed to write his own responses in the spaces at the right. Item order might be adapted to the particular group being studied. Note that items 4, 7, and 10 have been made into separate pupil rating scales (Preferences for Working Conditions, Subject Areas and Activities). If those two pupil ratings are used, these three items should be omitted from this inventory in order to avoid duplication. They are included here should only an interview be used.

Pupil Inventory

Pupil's Name ______________________________

Date ____________________

1. Feelings about being in special educational program		
2. Areas and skills which are easiest in school		
3. Areas and skills which are hardest in school		
4. Things enjoyed most		
5. Things not enjoyed (areas disliked or in which change is desired		
6. Areas or activities in which greatest progress is felt		
7. Preference for working conditions (alone, with others, long periods, where, etc.)		
8. Sports and games (what activities, evaluation of progress, with whom)	In school	
	Out of school	
9. Use of free time (activities, with whom)	At school	
	At home	

10. Areas in which "creative" products and freedom of expression are especially enjoyed (writing, music, art, speaking, dance-physical, drama, construction-manipulative, etc.)		
11. Hobbies and favorite recreation		
12. Lessons out of school - special opportunities		
13. Television habits	Types of programs preferred	
	Frequency of viewing	
14. Reading habits	Kinds of materials preferred	
	Amount of time spent	
15. Special responsibilities or jobs out of school		
16. Clubs and organizations (special friends who belong, activity leadership role, offices held or desired, etc.)		
17. Activities in which family participates as a group		
18. Possible vocational choices		
19. Educational ambitions		
20. Possible goals for the year		
21. Problems encountered		

Pupil Rating

Name ______________________________ School ________________

Date ____________________ Grade ________________

Subject Areas and Activities

Check (1) the column which best describes the amount of interest you have in the following subjects or activities and (2) the level at which you feel you perform in each (judged either by grades or quality of products).

		Interest						Performance				
		Little		Moderate		Much		Low		Average		High
		1	2	3	4	5		1	2	3	4	5
	Art											
	Construction or Manipulation (making things with hands)											
	Dramatic Expression (being in plays, acting)											
Language Arts	Handwriting											
	Oral Expression (speaking)											
	Spelling											
	Reading											
	Written Expression (stories, poems, compositions)											
	Foreign Language											
	Mathematics											
	Music											
	Physical Activities (sports, dance)											
	Science											
	Social Studies											

Check the following items for (1) the amount of enjoyment you feel with each activity and (2) how free you feel about expressing yourself in each one.

		Enjoyment						Freedom of Expression				
		Little		Moderate		Much		Little		Moderate		Much
		1	2	3	4	5		1	2	3	4	5
Writing												
Music	Singing											
	Instrument											
Art												
Speaking												
Dance or Physical Activities												
Drama (acting, being in plays)												
Construction or Manipulation (making things with hands)												
Other Activities You Enjoy												

Name ______________________________ School ____________________

Date ____________________ Grade ____________________

Preferences for Working Conditions

Check the following items to indicate your preferences for working conditions. Give the reasons why you checked the columns as you did.

	Little 1	2	Moderate 3	4	Much 5	Reasons
Alone						
With friends						
In small groups						
In large groups						
Long work periods						
Short work periods						
At home						
At library						
At school						

My Ideal Classroom

If you had your choice and could set up an ideal classroom, what would it be like? (Include how it would be organized, the way people would behave, kinds of materials and equipment available, ideal teacher, special activities, etc.)

Name ______________________________ School ____________________

Date ______________________ Grade ____________________

Value Rankings

One of the ways in which people differ is that they may have different values. The things people feel are important in life are their values. What do you value most? And why?

Rank the following sections in order of their importance to you: (1) first choice, (2) second choice, etc. Try to give reasons for your highest choices (what benefits you may receive, what you particularly enjoy, etc.). Remember that there are no right or wrong answers. Order them as you really feel, not just as you think others might expect you to respond.

	Rank:	Reasons:
(1)		
Being a good athlete	______	
Being a good student	______	
Being popular	______	
Being one who understands and accepts other people	______	
(2)		
Having others know you are very sociable and know how to get along with people	______	
Showing others how intelligent you are	______	
Having others know you are especially understanding and have deep feelings	______	
Having others know you are outstanding in some physical ability	______	
(3)		
Being warm and understanding	______	
Having above-average intelligence	______	
Being attractive or good-looking (build, features, etc.)	______	
Being easy to get along with	______	
(4) How would you like most to be remembered after you leave school?		
As a good student	______	
As an outstanding athlete	______	
As a school leader	______	
As a kind, understanding person	______	

	Rank:	Reasons:
(5)		
Doing what adults expect	______	
Deciding for yourself what you will do	______	
Getting approval from adults for what you do	______	
Deciding for yourself how well you have done things	______	
Getting approval from your friends in what you do	______	
(6)		
Enjoying working with mechanical or scientific things	______	
Enjoying abstract or mathematical problems	______	
Enjoying nature (stars, rocks, etc.)	______	
Enjoying living things (insects, butterflies, animals, pets, etc.)	______	
Enjoying "losing yourself" in a good book or in imagination	______	
Enjoying being with your family	______	
Enjoying studying about people (what they are like and why they are the way they are)	______	

(7) If you could have a real friend of ideal qualities and values, what would this person be like?

What age would this person be? ______

Would this person be male or female? ______

Who would this person be most like that you now know? ______________________________

What would be the most important qualities this person would have? (List these in order of importance.)

Children's Writings

Children's own words can be a rich source of information about their self-concepts, values, desires, and goals. In addition, their writing can provide insight into the kinds of problems children face.

Guidance-oriented writing assignments, spaced throughout the year, can provide a firsthand account of the growth and development of youngsters. An outline follows of six assignments of this type, with appropriate instructions and a time schedule for the teacher. Emphasis might be placed in all of these assignments on (1) the need for teachers to understand their students better, and (2) the fact that the writing constitutes a communication with the teacher and will not be placed on display in the classroom. However, to complete the two-way communication, the teacher might respond in writing or by means of a follow-up conference. These papers should not be graded.

Group content analyses can be made by categorizing and tabulating the various kinds of responses. Summaries of this type are valuable in class discussions and can help students project their own thoughts and attitudes against those of their peers. Individual responses should be kept anonymous.

Copies made of children's writing may become a significant part of the case study. A color code may be used for underlining significant information. For example, red might indicate references to self-concept and blue might be used for values, etc. A key should be included with these materials to facilitate interpretation.

(1) Goals for the School Year

(Start of School Year)

Suggested instructions:

"We have had our vacations and we are starting a new school year. Every once in awhile, people ought to give some serious thought to the future. This is a good time to ask ourselves, 'What do we want to accomplish in the coming year? What would we like most to have happen this year?' Explain your thinking or desires as clearly and completely as you can. Make your title My Goals for the School Year or think of an original title to express this topic."

(2) Autobiography

(Early Fall)

Suggested instructions:

"If teachers understand their students, they can do a better job of teaching. I would like to know more about each one of you. You need lots of experience with writing. People generally can write with ease about things that are important to them. I have an assignment which can help both of us.

If you write an autobiography, it will give you experience with writing and it will help me get better acquainted with each one of you. Since you are an 'expert' on yourself, this should be an easy assignment.

I would like you to include the following kinds of information, plus anything else you feel would be important or interesting, anything which you feel might have had an important influence on your life:

1. Your position in the family
2. Events of importance in your early life
3. Early childhood experiences you remember most vividly
4. School history
5. Kind of person you are now
6. Things you enjoy most and things you do not enjoy
7. Kind of person you would like to become
8. What you would like most to do in life

(Either place above list on board or duplicate as an assignment sheet)

I suggest you make an outline before you begin. You might list sub-points under each of the eight main topics. These could be reminders for paragraphs. You may include conversation, descriptions of important places, persons, or objects, and exciting incidents. Make it as complete and interesting as you possibly can."

(3) Three Wishes

(Late Fall)

Suggested instructions:

"If you had three wishes and a choice of anything in the world, what would you want most? Describe each of these in a separate paragraph in the order of choice. Your title will be Three Wishes."

(This can be done in one period. Try to eliminate all communication. Do not give examples which they might copy. Although Christmas is coming, try to encourage them to consider things other than gifts they might receive at Christmas.)

(4) Problems of People My Age (Winter)

Suggested instructions:

"Teachers sometimes need help in understanding their students better. Being older, adults have grown up in a different time and under different conditions. They probably had to face slightly different problems as they grew older. What kinds of problems do people your age have to face today? What are the most difficult problems which must be met? What kinds of help do you feel people your age need most? Write a paper on Problems of People My Age. You may include any problems which you have experienced."

(5) How I Have Changed Since Last Summer (Early Spring)

Suggested instructions:

"Change is one of the things we will see all through life. . .change in the world around us, in the people we know, and in ourselves. I can see many changes in each of you since the start of the school year. What changes do you see in yourselves? Write on the topic How I Have Changed Since Last Summer. This may include any kind of change. . .in looks, physical ability, feelings, attitudes, problems you meet, ways of thinking, habits, etc. It does not have to be a big, dramatic change; change usually occurs gradually. Try to think of all the things about yourself which you feel are somewhat different from what they were last summer."

(6) The Past School Year (End of School Year)

Suggested instructions:

"The school year is almost behind us. Just as it is important to look ahead to the future, so it is valuable to stop to look back occasionally and ask, 'What progress have I made? What have I accomplished? What have I not done that I had hoped to do? What has made me the happiest? What do I value most about this year of my life?' Make this more thoughtful than any writing you have done so far. It may give you some clues as to what you would like to concentrate upon next year. Your title may be The Past School Year or it may be something original which conveys this idea."

Anecdotal Records

A file of anecdotal record cards, kept in chronological order, can provide valuable data for determining behavior change over time in a variety of situations and through the eyes of multiple observers.

The following is a sample of a handy card for use in making such observations:

Name ______________________ Teacher ______________

School ______________ Date _________ Time _________

Recorded by ______________________________________

Activity ____

Description of Behavior:

A set of such cards, alphabetized by students' names or arranged to coincide with seating arrangements, can be used for an entire class during an observation period. If the teacher has ample cards easily available she can make brief notes during a class period and complete the description when she has more time.

Be specific about events in describing a child's behavior. Avoid making value judgments such as "He was naughty", "He was good", or "He refused to mind the teacher". If possible, an event should be described as "He knocked Mary's books to the floor","He picked Mary's books up for her", or "He talked to Jim during study period when instructions had been given to work independently".

Observations should be made to show the child's interactions in many situations. Contrasting and comparing such data can provide valuable insights into characteristic behavior patterns and more accurate hypothesizing about personality structure.

Since people tend to perceive somewhat selectively, it is wise to have anecdotal records made by as many adults in the school environment as possible. Guidance personnel, curriculum consultants, principal, nurse, secretary, teachers in specialized areas, as well as the classroom teacher, are all resources for collecting observations of children's actual behavior.

It would be helpful in setting up goals and programs for individual children or appraising their development to have such records typed periodically in chronological order and filed with other case study data. Categories such as the following might be established:

Behavior with adults
Behavior when alone
Behavior with large groups of children
Behavior with small groups of children
Behavior with special friends
Classroom Behavior

Playground behavior
Behavior in different subject areas
Unusual achievements in a variety of areas
Accounts of particular learning difficulties or problems
Evidence of outstanding learning characteristics
Evidence of special interests
Areas avoided
Use of free time
Significant comments

The simplest way to analyze anecdotal records probably would be to develop a color code for desired categories. Underlining key descriptions would facilitate interpretation.

Part VII

TEACHER SUMMARY

(Please record with ball-point pen)

Pupil's Name ______________________________

What SPECIAL PROVISIONS have been made to meet this pupil's INDIVIDUAL NEEDS (enrichment, individual project, acceleration, special class, counseling, etc.)?

Grade	Entry by	Date

What CHANGES have you seen in this PUPIL since the start of the year (attitudinal, behavioral, appearance, functioning)?

Grade	Entry by	Date

What RECOMMENDATIONS can you make for CURRICULUM PLANNING designed to meet this pupil's INDIVIDUAL NEEDS?

Grade	Entry by	Date

APPENDIX III - Part 1

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Superintendent of Public Instruction
and Director of Education

Richard M. Clowes
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CALIFORNIA STATE DEPARTMENT OF EDUCATION
Division of Instruction
Sacramento 14, California
December, 1962

THE INDIVIDUAL PLACEMENT PROJECT--AN OVERVIEW

by
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Explanation of the Individual Placement Project.

The Individual Placement Project for academically talented pupils in the elementary schools is a unique form of acceleration which utilizes the summer school and involves no actual skipping of grades. Academically advanced and talented pupils are identified at the end of the second grade. These pupils are placed, according to their individual needs, into a special tutoring program in the summer which substitutes for the third grade. During their fourth and fifth grades, periodic evaluations will be made to establish their progress and appraise any special requirements they may have. An individual counseling and tutoring program must supplement the experiences of these children during their fourth and fifth grades. At the end of the fifth grade, this advanced placement group will be re-evaluated with a view toward placing those pupils with sufficient readiness into a special substitute program which would substitute for the sixth grade. This program is described in more detail in a paper entitled, "The Individual Placement Project for Academically Talented Pupils in the Elementary Schools."

Special Problems.

It should be emphasized that the Individual Placement Project is essentially an administrative device to accomplish acceleration without skipping. However, acceleration is not an end in itself. The main purpose for accelerating children is to place them with a peer group more like themselves in order that they may be adequately challenged, stimulated, and interested in their everyday program. This administrative procedure, even when it is carefully thought out, must be supplemented by other experiences. The talented child who is accelerated does not cease to have highly specialized needs. He may require special counseling, tutoring, special projects, or other enrichment activities in the grade into which he is advanced. He may still need to interact with other gifted pupils with whom he is placed.

Special problems may arise when, in spite of the careful identification processes to be utilized, pupils are still misplaced into the substitute summer programs. These problems will not be so severe if we are entirely forthright with parents, children, and teachers in all phases of this program. For example, if the parents realize that participation in the substitute summer program is not an automatic "ticket" into the fourth grade, they will be able to understand and, hopefully, agree with some new decision that may be reached by the special teacher during the summer program. There is no special formula to avoid disagreement, disappointment, and other unfortunate experiences. If the parents and the child have been intimately involved in the identification, placement, and educational processes of this program, they will probably agree right down the line with any decision that is forthcoming from the certification committees or special summer program teachers.

Some special problems may arise with those children who are not accelerated even though they have been screened. Again, no strategic problems will arise providing we are completely open-minded and forthright with all parents. We have just as much obligation to the parents and children who are not accepted for participation in the program as we do for those who are accepted. We owe the parents of a child who was not included a full and thorough explanation of why he was not included. If the explanation is academically and psychologically sound, the parent will undoubtedly agree with us wholeheartedly. In fact, we would prefer the parents themselves to make many of these crucial decisions.

The Special Need for Individual Attention for the Pupil.

The cornerstone of the Individual Placement Program is the individual treatment of the pupil. The success of this program depends upon the extent to which local districts thoroughly study and cater to the individual needs of the participating pupils. Make no mistake about it, this aspect of the program may be expensive. However, it would seem that we have a special ethical obligation to see to it that mistakes simply are not made. Mistakes need not be made providing each child who participates is thoroughly studied and receives any special tutoring or counseling which may be necessary for his individual adjustment into the special summer programs and the advanced classes into which he will be accelerated.

Extra Costs to Participating Districts.

This program has been approved by the State Superintendent of Schools as an acceptable program for mentally gifted minors. This means that any excess costs incurred will be reimbursable as an approved mentally gifted program. It is permissible to include pupils in this program who are not technically "mentally gifted", but whose prognosis for success is such that acceleration is indicated. This is a "three-semester" program even though only "two semesters" are reimbursable from the currently available excess-cost monies. Therefore it is recommended that the two most costly semesters be included and accounted for excess reimbursement purposes. These two semesters would be: (1) the winter-wpring semester (February through June) in which most of the identification and first counseling and tutoring costs are incurred, and (2) the special summer program in the summer school.

Excess costs during the spring semester should take the form of: (1) individual identification costs, (2) counseling with the pupil and his parents, (3) tutoring for those pupils with special needs, (4) in-service training for teachers, and (5) special curriculum development and consultation with teachers, parents, and pupils concerning curricular needs.

Reimbursement for excess costs incurred during the summer will probably occur in the following fiscal year and would include: (1) extra instructional costs, especially in the form of special tutoring time teachers devote to the participating pupils after school during the summer, (2) any special counseling necessary for the participating pupils, (3) extra materials such as reading laboratories, spelling laboratories, reference books, and project materials not ordinarily bought, (4) possibly, excess transportation costs, and (5) consultant costs, particularly curriculum consultant costs.

Excess costs will also be incurred during the fall semester when the pupils are placed in the fourth grade and during the fifth grade. These special costs will take the form of: (1) any special counseling or tutoring necessary to accomplish the pupil's full adjustment to his advanced class, (2) consultant services for the teachers with whom the participating pupils are placed in advanced classes, (3) follow-up costs including group examination costs, and (4) any special project materials needed by the pupils in their advanced classes. Once the program is operational, this Individual Placement Project can be considered an "ongoing program" and all of the excess costs pertaining to the program could be computed on a semester basis excepting, of course, those costs attributable to pupils who are not legally mentally gifted. For example, once identified and after being exposed to substitute summer school, a given pupil might incur up to legal maximum excess costs for tutoring in the fourth and fifth grades.

The extra materials needed to implement and facilitate this program will be determined at the local level and specifically adjusted to meet the needs of the local districts educational philosophy and normal third-grade and sixth-grade programs. The extra personnel needed to expedite this program include the following: (1) a guidance consultant with training in the administration of individual tests and with research experience, (2) a curriculum consultant with elementary curriculum development training and an ability to work closely with teachers, psychologists and others in the individual development of courses of study suited to meet very specialized indivudual needs, and (3) special summer school teachers whose background and training in education render them "master teachers" with a special skill in dealing with exceptionally talented and creative children.

Providing the special program provisions outlined above are carried out, it has been estimated that this program will cost $60 in excess costs a year per pupil on the average. This figure is based upon an exhaustive study of the 188 school districts which offered programs during the last fiscal year. Currently, $40 of these costs will be reimbursable for those pupils who are legally mentally gifted. However, there will be an undeniable saving to the district in terms of providing four or five rather than six years of education to the participating pupils. Of course, this saving is only incidental. We are concerned only with the full development of pupil potentiality.

Estimated Cost Breakdown on Per Pupil Basis:

Spring semester: (1) identification - $15; (2) consultants - $5; (3) tutoring - $5; and materials - $5.
Summer semester: (1) instructional - $10; (2) materials - $10; and (3) consultants - $10.

Special Program Facilitation.

After a district has decided to participate in the Individual Placement Project, the following specific steps need to be taken in order to launch, facilitate, and implement the program:

Step 1. The district must re-evaluate its educational philosophy and make sure that this particular kind of program correlates with their unique situation. Where contradictions or differences of opinion exist, there should be healthy discussion, clarification, explanation, and modification. Perhaps this step is best expedited by a special district-wide committee whose functions would consist of overseeing the entire Individual Placement Program..

Step 2. All of the teachers in the district should be acquainted with the proposed program. This can be done efficiently by means of one or more general in-service meetings. During these meetings, the entire project would be explained to the district professional staff. More specific in-service meetings and training would follow for those persons specifically involved in the project such as the summer school teachers, consultants, and other related personnel. In-service training for the participating personnel should be devoted to: (1) understanding and implementing the district's educational philosophy and the goals of the Individual Placement Project, (2) identification techniques and procedures, (3) the nature of the gifted and talented child, (4) the curriculum procedures and materials to be utilized during the substitute summer programs, (5) the development of special evaluative techniques such as report cards, satisfaction rating sheets, progress reports, and etc., (6) the development of adequate follow-up procedures and the stimulation of lines of communication between and among consultants, special class teachers, and advanced placement teachers.

Step 3. Nomination forms and procedures need to be developed and distributed to second-grade teachers. Suggested nomination forms will be developed by the state coordinating group, however, a particular local district may wish to modify these forms for its own purposes. Nominations would come from regular teachers in the second grade. The teachers would nominate pupils who in their judgment matched certain criteria which would be provided. These criteria would include estimates of the child's intellectual, emotional, social, and physical functioning.

Step 4. From the pool of nominations, the guidance consultants must identify and develop a case study for those pupils who will participate in the special summer programs. This identification and case study process will be summarized in a document entitled, "Individual Placement Project Certification and Summary Form." It must be emphasized that the identification case study process does not merely involve individual examination with the Stanford Binet or the W.I.S.C. Rather, it involves the gathering of minimal data in the areas of: (1) academic background and proficiency, (2) objective test results, (3) intellectual functioning, (4) personal interests, (5) personality and emotional stability, and (6) social maturity.

Step 5. A placement and certification conference must be held, attended by the guidance consultant, nominating teacher, parents, and an administrative representative. All of the committee members would sign a certification document indicating their approval for the child's participation in the project and, where appropriate, their certification of legal "mental giftedness." This committee would see to it that adequate follow-up, counseling, tutoring, or any other special implementation was forthcoming in the case of a particular child.

Step 6. Special counseling and tutoring should be available for any participating pupil who needs it. This special tutoring or counseling might be needed prior to his participation in the substitute summer program during the summer program, or sometime following the summer program. Perhaps the easiest way to implement this step is to designate members of the professional staff whose assignment would include special tutoring or counseling for pupils needing it.

Step 7. The special substitute summer programs would need to be developed with emphasis upon special tutoring for individual pupil needs. Suggested curriculum will be developed for all of the participating districts. However, a given district may wish to deviate from this curriculum in terms of its own specific educational philosophy. In general, skills, methods, and specific learnings generally offered in the third grade would be emphasized. However, a given pupil may have certain weaknesses as, for example, in the area of arithmetical skills. For this particular student, arithmetic would be emphasized during the summer program. Generally, the research indicates that talented pupils may have relative weaknesses in the areas of language skills, (especially spelling and writing), creative writing, and study habits. Generalizing from third-grade programs, the following time breakdowns in terms of percentage of time devoted to a given area follow: (1) language arts including reading, literature, spelling, oral and written expression--40 percent, (2) social studies--12 percent, (3) arithmetical work--8 percent, (4) science and health--10 percent, (5) combined art-music--10 percent, and (6) the rest of the time for planning and evaluation. It is suggested that the six-week summer program be designed on a full-time basis to include five forty-minute periods with at least one twenty-five-minute play period.

Step 8. Follow-up and evaluation. Professional personnel will need to be designated for the evaluation portion of this project. The participating pupils will need to be studied periodically, preferably each year, by means of objective tests indications of satisfaction and teacher ratings. The follow-up procedure should also focus upon the individual pupil, offering him special opportunity for tutoring and counseling.

Summary.

In order to prepare for participation in the Individual Placement Project the following documents should be studied: (1) The Individual Placement Project for Academically Talented Pupils in the Elementary Schools, (2) the Articles defending acceleration by Pressey, Mirman, and the writer, (3) Developing an Adequate Case Study, and (4) Suggested Curriculum Development for the Substitute Third Grade.

In the process of developing the Individual Placement Project we hope to generate many useful materials including case study forms, identification procedures, suggested curriculum development, and specialized counseling and tutoring techniques. We hope that all of the participating districts will freely communicate with one another and that this project will stimulate an "open-door policy" among and between school districts in California.

APPENDIX III - Part 2

CALIFORNIA PROJECT TALENT

PROGRAM ADMINISTRATION

APRIL 1965

CALIFORNIA STATE DEPARTMENT OF EDUCATION • DIVISION OF SPECIAL SCHOOLS & SERVICES
MAX RAFFERTY • SUPERINTENDENT OF PUBLIC INSTRUCTION • SACRAMENTO

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REPORT OF A PILOT SUMMER SESSION WORKSHOP-DEMONSTRATION, 1964

REPORT OF A PILOT SUMMER SESSION WORKSHOP-DEMONSTRATION, 1964

A Demonstration Center with Differential Programs for Gifted Pupils

Auspices of:

California Project Talent

Sacramento State College

San Juan Unified School District

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REPORT OF A PILOT SUMMER SESSION WORKSHOP-DEMONSTRATION, 1964

A Demonstration Center with Differential Programs for Gifted Pupils

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CONTENTS

Page

INTRODUCTION. 1

PURPOSE OF THE PROGRAM 1
    In-service Education for Teachers. 1
    School Learning Opportunities for Gifted Children. 1

ORGANIZATION. 2
    Demonstration Classes. 2
    Workshop for Teachers. 2
    Physical Facilities. 3
    Administration and Budget. 3

CONTENT OF THE COURSE FOR TEACHERS. 4

SPECIAL CLASSES FOR GIFTED CHILDREN 6
    Individual Placement 7
    Enrichment 8
    Counseling-Instruction 9

EVALUATION OF THE WORKSHOP. 10

BIBLIOGRAPHY. 14

APPENDIX. 20
    A. Pupil Application Forms. 21
    B. Summer Workshop Announcement Brochure. 25
    C. Questionnaire to Adult Students. 26

REPORT OF A PILOT SUMMER SESSION WORKSHOP-DEMONSTRATION, 1964

A Demonstration Center with Differential Programs for Gifted Pupils

Since the establishment in 1961 of the California Mentally Gifted Minor Programs, school districts throughout the state have been renewing and extending their efforts to provide for academically talented children. Special programs require personnel with specialized training. Selection of teachers experienced in working with children of superior intellect has posed problems in program development.

Some obvious solutions have been (1) in-service training and, where available to teachers, (2) courses at colleges and universities. One advantage of in-service situations is the opportunity to observe gifted children in the school setting. On the other hand, training in institutions of higher learning offers library facilities and research information not readily obtainable within a school district.

The strengths of both approaches to professional growth can be joined in one program. To show how this might be done, personnel of California Project Talent, the San Juan Unified School District, and the Sacramento State College planned a summer workshop-demonstration program for teachers. In addition to participating in workshop activities, teachers had the opportunity to observe gifted children in acceleration, enrichment, and counseling-instructional programs. The first pilot workshop-demonstration program in the Talent Development Project was held in the summer of 1964.

PURPOSE OF THE PROGRAM

In-service Education for Teachers

A major purpose of the workshop was to help teachers become knowledgeable about curricular provisions particularly suited to the gifted. Another purpose was to foster comprehensive programs based on the characteristics of the gifted pupil population and the availability of human and material resources. Instruction of the teachers was planned to stress identification procedures, curriculum planning based on case-study information, methods of stimulating productive thinking, and program construction.

School Learning Opportunities for Gifted Children

Three classrooms of certified gifted pupils were selected for demonstration of four types of programs. Because each class was composed of top-ability pupils, each exemplified a "special class" program. All children were grouped on the basis of case study data, including high IQ scores. The primary class demonstrated acceleration of grade level without grade skipping, the fifth grade class demonstrated enrichment procedures and materials, and the seventh grade demonstrated the integration of guidance and curricular objectives.

The workshop was held 8:00 a.m. to 12:00 noon for four weeks, beginning June 29. Consistent with state requirements for a minimum day, demonstration classes were held 8:00 a.m. to 12:30 p.m. for five weeks, beginning June 29. The additional week for children's classes provided time for parent conferences and visitations and also met time requirements for obtaining reimbursement for excess costs from the California State funds for mentally gifted minors.

ORGANIZATION

Demonstration Classes

Because the curriculum for each class had to be developed by the teacher, recruitment occurred early in the spring semester. During the months preceding the summer session, special supplies and materials were ordered, resource persons were consulted, and outlines of lesson plans were written. In their planning, teachers considered specified interests and special projects which fifth and seventh graders had indicated on their application forms. The primary teacher developed a third grade level social science and science unit and ordered teaching materials specifically designed to strengthen third grade skills.

In March, letters of explanation and application forms (Appendix A-1 and A-2) were sent to parents of eligible fifth and seventh grade pupils who lived near the site of the summer program. Second grade pupils who were nominated as candidates for acceleration to fourth grade had been given individual intelligence tests earlier, so their teachers had begun work on third grade skills. The acceleration, enrichment, and counseling-instructional programs were explained to parents at meetings conducted by each school principal.

In April, the first thirty applicants for the fifth and for the seventh grade classes were sent notices of acceptance (Appendix A-3). The remainder of applicants were sent individual letters regarding their places on a waiting list. In May, parents of second graders who had been selected were invited to a meeting to discuss details of the summer planning. Following this meeting, enrollment and permission forms (Appendix A-4) were sent to the parents.

The classes were patterned after three of the programs for gifted children which are demonstrated in California Project Talent. The Individual Placement Program, as established in the Pasadena and Ravenswood School Districts, provides for acceleration of qualified pupils from second to fourth grade through attendance at a third grade summer session. The Enrichment Program, in the Los Angeles City School District, has developed particular methodology and materials appropriate to the academic power of gifted pupils in the intermediate grades. The Counseling-Instructional Program in the San Juan Unified School District has correlated guidance and curricular objectives for gifted children in social science and English through small group counseling sessions in seventh, eighth, and ninth grades.

Workshop for Teachers

Administrators and teachers throughout the state were sent notices of the workshop (Appendix B). The enrollment of twenty-eight included persons from as far north as Eureka and as far south as Los Angeles. In March, April, and May, representatives from the Project, the college, and the school district met to coordinate planning and a sequence of workshop topics was developed. By June 15 organization of the classes and the workshop had been completed.

Physical Facilities

The workshop was held in the multipurpose room at Winterstein School, San Juan Unified School District. Located across the hall from the office and duplicating equipment, the large area offered an excellent arrangement for lectures, films, small group discussions, and reading. Dr. Bishton provided his personal library which, with supplementary study guides, pamphlets and other materials from the State Department of Education, was installed on the stage. Tables and chairs were situated nearby to provide a secluded research and study area and a work corner was arranged with four typewriters. Coffee was available in the conversation corner.

Three rooms adjacent to the multipurpose room were used by the demonstration classes, and an adjoining room was provided for individual pupil projects, class committee meetings, and interviews with pupils.

Administration and Budget

Expenses were shared by the three sponsoring agencies. The school district paid the teachers' base salaries and supplied the rooms and custodial services. The college provided the servicesof the director of the workshop, Dr. Bishton, additional stipends to the teachers of special classes for their demonstration services, and the services of the summer school secretary. Costs related to the identification of pupils and the special supplies and materials were provided with funds from the Mentally Gifted Minor Program. California Project Talent contributed the summer school principal and coordinator, resource persons and lecturers, and Project publications.

CONTENT OF THE COURSE FOR TEACHERS

By

Rodger Bishton, Director of the Teacher Workshop
Professor of Education, Sacramento State College

Considering the "happenstansical" nature of educational practices and/or programs perpetrated for the "gifted" in our schools, one can perhaps be excused for structuring the purposes and experiences provided for the teachers attending the four-week summer workshop last year. Though time was allowed for independent projects, from the viewpoint of the person coordinating the summer program, our primary purpose was to impart to teachers the concept of a differentiated curriculum as a basis for developing programs for gifted students.

With the expert assistance of the directors and consultants from the California Project Talent, a basic knowledge of and the underlying philosophy for a differentiated curriculum were presented through lectures and class discussion. The application of these ideas was concretely illustrated by drawing upon subject matter per se to show how these ideas can be implemented in the classroom. The participating teachers were given the added advantage of observing a differentiated curriculum in action in three types of programs for gifted students. Demonstration classes were conducted for purposes of studying and evaluating differentiated programming in one class providing acceleration, another enrichment, and the third integrating guidance with subject matter.

Fundamental to the aforementioned types of gifted programs is an understanding of gifted youngsters. In place of knowing only the generalizations to be found so frequently in the literature, the case study method was emphasized as the one method for understanding gifted children and youth on an individual basis. The method of synthesizing the data collected, interpreting and putting to use the insights obtained in developing a differentiated curriculum was also included. The experience of collecting case study data for an individual child in one of the demonstration classes provided a worthwhile reinforcement of the methods and materials presented in the lecture periods.

Sequence of Topics

1st Week -

Characteristics of gifted children

Techniques of observation
The case study method

Identification and selection of pupils

Curriculum goals--a philosophy of education
Development of basic skills
Development of productive thinking

2nd Week -

Motivation
Classroom climate--discussion techniques
Teacher-pupil relationship
Teacher-pupil planning
The achieving gifted vs. the non-achieving

Grading practices
Methods of continuous evaluation

Personal and social problems of the gifted

3rd Week -

Critical evaluation of materials and other instructional resources and aids as stimuli to intellectual development
Use of community resources (places and people)

Critical examination of examples of curriculum innovations

Enrichment vs. acceleration as a basis for curriculum development

4th Week -

Current and significant research

Advantages and disadvantages of various administrative groupings in relation to curriculum goals

Problems encountered in administrating a program
  a. Desirable qualities in teachers of the gifted--self-analysis
  b. Selection of teachers
  c. Answers to arguments against programs for the gifted
  d. Teacher-parent-community relationships

Sharing of individual projects

Summary

From the writer's viewpoint the objectives of the summer workshop were achieved most effectively. If we erred at all, it was a matter of being too ambitious. In our zeal we may have tried to cover too much in too short a time. There is genuine satisfaction in knowing, however, that our summer workshop last year had real substance.

SPECIAL CLASSES FOR GIFTED CHILDREN

CALIFORNIA PROJECT TALENT

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for Gifted Pupils

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SUMMER SESSION WORKSHOP, 1964

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INDIVIDUAL PLACEMENT

By

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Winterstein School
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Carmichael, California

CONTENTS

Page

INTRODUCTION. 7a

ROOM ARRANGEMENT AND CENTERS OF INTEREST. 7a

INSTRUCTION IN SKILLS 7c

RESOURCE GUIDE FOR STUDIES IN SCIENCE AND SOCIAL SCIENCE. 7e

SUMMARY 7j

As one approach for the education of gifted children, the San Juan Unified School District began a program of planned acceleration for carefully selected able children. During the spring semester, 1964, a number of second graders from various elementary schools within the district were screened and given individual tests. After test results indicated intellectual strength and after parents, teachers, and principals gave their approval, twenty-six children were enrolled in the summer school program.

The children remained in their second grade rooms during the remaining months of the spring semester and were directed toward third grade proficiency in arithmetic, reading, spelling and penmanship. This individual instruction was given to selected children by their regular teacher.

The summer session commenced on June 29 and continued for five weeks. Class began at 8:00 a.m. and closed at 12:30 p.m. Daily recesses and snack times were scheduled around children's interest peaks and the need for flexible working periods.

ROOM ARRANGEMENT AND CENTERS OF INTEREST

The desks were arranged in horseshoe fashion with the open end near the front board. This arrangement helped to stimulate class discussions and provided for comfortable individual participation. Also, this left a large floor area which was useful during activity periods. The corners of the room were employed as interest centers, designed specifically for student operation and participation.

Library Corner

The "Reading Round" contained a variety of enrichment readers, Britannica Jr. and Golden Book encyclopedias, a children's atlas, some children's magazines, a world globe, and maps of the United States and the world.

In front of the book shelves was a round table where children could read and work quietly. Adjacent to the shelves and on the wall was a "Book Worm Chart" which depicted a book worm and listed the children's names in alphabetical order. After completing a book, each child would write its title on a small piece of construction paper, formed like a miniature book, and paste it next to his name. The color of the paper indicated the type of book read and provided a library record.

"Math Niche"

Another corner of the room consisted of a table with a film viewer, filmstrips of basic steps in mathematics, flash cards, an abacus, a counting meter, a manipulative clock, a flannel board with cutouts, a peg board, arithmetic games, arithmetic records, and books.

A box entitled "Surprise Package" contained S. R. A. Third Grade Arithmetic work sheets. The children were free to attempt any of the pages in the package, but it was up to them to make corrections by obtaining the teacher's manual.

Listening Corner

The listening table was used primarily for exposing the children to light classical music and for developing a sense of appreciation toward the stories behind this music.

Twice a week the teacher presented a new sound filmstrip pertaining to fairy tales in music, stories in ballet and opera, or legends in music. This filmstrip along with the record was placed at the listening post and the children would operate the equipment when they desired. This post included a record player, eight earphones, a film viewer, and sets of records and corresponding filmstrips.

Science Corner

The Science Corner was another very popular area. This consisted of a table with a wide variety of science displays and manipulative objects, including a film viewer, numerous filmstrips on the natural and physical sciences, three microscopes, four boxes of slides, a chemistry set, many hobby displays, and numerous science books.

Art and Project Corner

Fortunately this center included a large sink area and all of the necessary materials such as paint, paste, clay, scissors, and paper. A large working table was available for individual or small group projects.

On Monday of every week a new pair of helpers was chosen to be in charge of each interest center. The children responsible would keep each corner or table straightened.

Bulletin Boards

Six bulletin boards were arranged on the opening day as described below. Later, pupil work was displayed as the boards were turned over to pupil committees.

Next to the library, a space scene showing a rocket soaring toward a planet was covered with book jackets. The caption was "Let's Explore the World of Books." "Yaba Daba Do . . . It's Math Time" was placed above a large cut-out of Flintstone, who was pointing to a number of arithmetic charts. These charts dealt with measuring, fractions, time, geometry, and fractional parts. The bulletin board directly behind the listening post displayed comical illustrations of American folk songs. The names of these pictures were on separate pieces of paper in scrambled order. The caption read, "Can You Find These American Folk Songs?" The children were challenged to match the pictures with the correct titles. Behind the Science Table was a board captioned, "Your Life Depends Upon These." The board went into detail about the relationship and interdependence between plants and animals. In the back of the room was a large bulletin board designed for social science. An outline of California was formed by using yarn and Sacramento County was represented by a black cutout. The pictures of historical Sacramento were on the left side of the yarn map and illustrations of our County today were on the right side. A board showing examples of children's art, utilizing a variety of media, was titled "Watch Us Create and See Us Grow."

Equipment

1 movie projector
1 overhead projector
1 opaque projector
1 filmstrip projector
1 tape recorder
3 sets of earphones (8 in each kit)

1 bioscope or kena-vision
3 microscopes
3 individual film viewers
1 paper cutter
1 puppet house
26 slate boards

INSTRUCTION IN SKILLS

Daily Schedule

8:00 - 8:10	Flag salute, sharing , and announcements
8:10 - 8:15	Planning the day's assignments
8:15 - 9:00	Arithmetic
9:00 - 9:45	Language arts
9:45 - 10:00	Spanish
10:00 - 10:10	Recess and snack
10:10 - 11:00	Social science, science, health
11:00 - 11:20	P. E.
11:20 - 12:20	Activity period--creative expression
12:20 - 12:30	Cleanup and evaluation

The daily schedule varied according to the children's units of study and interests.

The areas of greatest emphasis in the summer school program were social science and science. The basic third grade skills in arithmetic, reading, spelling, and language arts, however, were continually strengthened and extended.

Mathematics

At the beginning of the program, a diagnostic test was administered which provided for tentative grouping. The children studied the history of numbers, including Egyptian, Mayan, and Roman number systems. The children enjoyed writing numbers in these systems as well as working out computations.

Although much of the basic third grade math material was new, most children were able to move through new concepts rapidly. The material from S. R. A. Mathematics was demonstrated or presented by the teacher and then children worked on class assignments of the day. During this time, small groups came to the library table with their slate boards and individual instruction was given in those areas that demanded attention.

Language Arts

Because reading was an area in which the children had considerable strength, an individualized approach was used. The S. R. A. Reading Laboratory, including individual charts and progress graphs, offered a challenge. The class had bi-weekly assignments in Dolch books, Aesops' Fables, Far East Stories, and Greek Myths. After every child had completed the selected book, a class "Socratic" discussion would follow. Many fine creative stories were written as a result of reading these three types of literature.

Spelling was also approached as an individualized subject with Grolier's "Timed Spelling Kit." After the initial introduction, the responsibility was placed on the children to set their own assignments and time limits.

Creative writing in some form was used almost daily. Many of the topics were borrowed from Myers and Torrance's Invitations to Thinking and Doing. With the exception of original stories, fables, and Haiku poems, guidance was the ultimate purpose for choice of topics which would be to help the children approximate their creative potentialities and better understand themselves.

Cursive writing had been introduced to most of the children, although this was an area which required a great deal of practice. A set of dittoed practice papers containing all the letters and the correct step-by-step procedure for writing them was given to the children on the first day of summer school. The children used these at home to practice cursive writing. As papers were turned in daily, the teacher was able to spot deficiencies and check growth.

Social Science and Science

Because the unit of study for social science was Sacramento County, we set the stage by taking a field trip to Deterding Woods, next to the American River, with guide and local historian, Mrs. Effie Yeaw. The following day, the children studied a map of California and discussed county separations and topography. Some of the children found other counties in California where they had lived, and prepared to compare and contrast these with Sacramento County.

Overlays showing the birth of the American River, water shed, and the location of the Sierra Nevadas were presented to the children. How the discussion of the forces of nature which shaped this area evolved to a study of the geology, the geography, and the history of Sacramento County is outlined in the "Guide for the Unit."

P. E.

For the first week, a new game was taught to the class every day. During following weeks, the children taught various games they had learned in their different schools. The exercise record, "Chicken Fat," by Robert Preston, was especially popular for calisthenics.

Activity Period

The last period of the day was a time in which a sizeable amount of individual attention could be given to skills needed or to projects of special interest.

"SACRAMENTO COUNTY"

A RESOURCE GUIDE FOR THIRD GRADE STUDIES IN SOCIAL SCIENCE AND SCIENCE

First Week

Main Ideas	Activities	Resources
A. Different places offer many kinds of environments. B. Forces of nature determine the topography and climate. C. Sacramento County developed around the river land.	1. Discuss and locate different places the children have lived. Tell how other residences were like or unlike Sacramento. 2. Discuss meaning of word "environment" and adapt it to an understanding of present community. 3. Choose topics for reporting on forces of nature, volcanoes, glaciers, earthquakes, wind and rain, rivers. 4. View a map of Sacramento County and point out relationship of American River to the Sierra Nevadas. 5. Take a study trip to Deterding Woods.	Films: "Paricutin" M4-487 "Earth's Changing Surface" M4-835 "The Mountains" M4-445 "California's Golden Beginning" M8-38 Filmstrips: "Glaciers" Books: Natural History Guide All About Rivers All About Our Changing Rocks Childs Book of Mountains How and Why of the Earth Childs Book of Volcanoes Speaker: Mrs. Effie Yeaw, guide and commentator.

Second Week

Main Ideas	Activities	Resources
A. Wherever people live, certain things are needed. a. Food b. Shelter c. Clothing d. Transportation e. Communication f. Education B. Environment affects man and is modified by him in turn. C. Indian life on the river is part of Sacramento's cultural heritage.	1. Select a topic for reporting from the list of needs. 2. Find pictures of various types of Indian shelters, food, dress, etc. 3. Construct an Indian village diorama. 4. View a filmstrip comparing the means by which they met their needs. 5. Keep a scrapbook of early Sacramento County	Filmstrips: "Cooperative Living" "Early California Indians" F.S. 155 S.P. 75 "Indians of California" S.P. 25 "California Indian Homes" Books: Indians Indians Knew Heart of California Natural History Guide Science Far and Near Records: R10-113 "California Indian Songs"

Third Week

Main Ideas	Activities	Resources
A. Change is constant and universal. B. Early settlers in our community faced many problems. C. People started our community for various reasons and utilized their natural environment. D. People communicate and cooperate with each other.	1. See film, "California's Golden Beginning." 2. Hear presentation of the background and history of early explorers. 3. Discuss how our community started. 4. Discuss the types of plants, animals, and resources that were here when the first settlers came. 5. Write creative stories on early pioneer life. 6. Choose committees to do research on landmarks and historic places. 7. Make dioramas or scenes of pioneer life and early mining camps. 8. Illustrate a scene depicting life in early Sacramento and put these into their scrapbooks.	Films: "California's Golden Beginning" M8-38 "Pioneer Home" M4-509 "Gold Rush Boy" M8-96 Filmstrips: "Founders of America Series"-John Marshall 306 F. S. 226 "Then and Now in California" F. S. "Family Shelter Series" Records: R10-112 "Folk Songs of California and the Old West" R10-3 "California Gold Rush" Books: Natural History Guide Heart of California California Gold Rush Gold in California In Old California

Fourth Week

Main Ideas	Activities	Resources
A. Soil, water, sun and air are the natural resources most indispensable to man. B. Climate affects local flora and fauna. C. Plants and animals depend upon each other for existence.	1. Discuss how plants and animals serve various communities. 2. See film, "Putting Animals Into Groups." 3. Discuss animal characteristics and how they are grouped. 4. Select one of the following for report and project: a. Birds b. Fish c. Amphibians d. Reptiles e. Mammals f. Insects 5. Make dioramas to accompany reports. 6. Volunteer for work on a mural of Sacramento wildlife.	Films: "Putting Animals into Groups" "Common Animals of the Woods" M4-147 "Forests" M4-832 "What's in A Country Stream?" Filmstrip: F.S. 24 "Animals Around The World" F.S. 239 "Wildlife in the West" Books: Science Far and Near Natural History Guide All About Series Animal Families Animals of Dr. Schweitzer How and Why Series Records: R12-2 "The Bird Man"

Fifth Week

Main Ideas	Activities	Resources
A. Our community today is a result of earlier communities and neighboring societies. B. A network of interdependence on other communities has resulted from the use of machines, improved transporation and better communication. C. Although all people have certain basic needs, they work in different ways to meet these needs. D. Groups are different in various communities because they are organized to meet special needs and interests.	1. Discuss how the basic needs of man are met in today's society. 2. List private and public services that help our community to meet these needs. 3. Choose an important organization or institution vital in our County and prepare a report on it. Compare and contrast it with our County in the past. 4. Put out class newspaper after discussing the principal assignments. 5. Collect current events--newspaper clippings on local or state news--and share with class. 6. Prepare mural contrasting life in Sacramento today with life in the past. 7. Take a field trip to many of the historic and scenic points of interest.	Films: "Communication In Modern World" M4-774 "Sacramento" M4-577 Filmstrips: F.S.196 "Products and Industries Series" F.S.228 "Transportation and Communication Series" Books: Your Town and Mine Big City and How It Grew Heart of California Resource Speakers: Mr. H. Winterstein presented the class with a lesson on local history. John Lewis, a representative for Sacramento Tours, was our guide and commentator for our final field trip (tour of Sacramento).

SUMMARY

Planning for these children was somewhat different from planning for a regular class. Less time was devoted to regular class periods, and more time was given to specified and independent activities. In a regular class, most small groups would be organized primarily for matching abilities, but with the exception of mathematics groups our main purpose for small groups was to bring children with similar interests together and to allow for an exchange of ideas and facts.

Many personalities unmasked during group discussions. In general, the children all had a happy and energetic attitude toward school work. Their reactions to new concepts were favorable and they adapted readily to new situations. As a whole, their approach to assignments was one of enthusiasm and curiosity. Because of their eagerness to do as much as possible, there were times when their finished products could have been more refined.

Many of these children had hobbies and collections which were exploited and incorporated into the curriculum. When children were free to choose an activity, they usually did research for social science or science reports, worked on dioramas or projects, finished daily assignments, toiled on spelling, read, or pursued special interests.

CALIFORNIA PROJECT TALENT

SUMMER SESSION WORKSHOP, 1964

A Demonstration Center with Differential Programs for Gifted Pupils

ENRICHMENT

By

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CONTENTS

Page
INTRODUCTION. 8a
ROOM ARRANGEMENT AND CENTERS OF INTEREST. 8a
STUDY SKILLS UNIT 8b
FRONTIERS UNIT. 8d
ENRICHMENT AREAS. 8f
FORMS DEVELOPED AND USED. 8i

The enrichment class of California Project Talent Summer School consisted of 15 boys and 15 girls who were certified gifted students entering the 6th grade in the fall of 1964. They came from many different schools and areas in the district.

Although the students had been grouped homogeneously in one aspect, they were as heterogeneous in many other ways as any random group would have been. Some students were highly gifted in the verbal skills, while performance areas were weaker, and of course the opposite combination was found also. Some had strong interests and pursued them vigorously, others seemed to have few interests and cared to pursue none. Attention spans and levels of maturity also varied greatly.

To observe the development of leadership within this group was interesting. Leadership roles had not been established because most of the members of the class had never met before. The boys emerged as the dominant force in the group even though maturity was in favor of the girls. Appearance and manner were important aspects in the early leaders; however, as they became better acquainted those students who displayed special talents, interests, and knowledge demanded lasting respect and came to assume leadership. One girl who was highly competent in almost all areas, very mature socially, well-mannered and rather quiet, was well liked by both boys and girls. One boy was highly verbal and tended to be quite bossy. However, the group respected the fact that he did have something to contribute and his contributions were usually valid. As a whole, the group tended to respect intelligence but demanded humanness and a positive personality on the part of leaders. The group seemed to respect in their peers the qualities of intelligence, creativeness, responsibility, and good humor.

Competition for the teacher's respect and favor was obvious during the first few days as is true with most classes, however the selectness of the group placed unusual urgency on this aspect for some students. Some who had never experienced a homogeneous situation before found it difficult to shine, even in areas where they may have been outstanding. This setback was momentary to most students who quickly adjusted to the group and their role within it.

As a class, they were intellectually curious, keenly observant, versatile, perceptive, creative, inventive and highly verbal. They had good powers of concentration and retention, were persistant, conceptualized easily, learned rapidly, and were able to work independently and responsibly.

ROOM ARRANGEMENT AND CENTERS OF INTEREST

Seating Arrangement

A U-shaped seating arrangement was found most satisfactory as this permitted maximum participation in group discussions and the presentation of reports by members or guest speakers.

Centers of Interest

Viewing Center:
A small protected screen made from a cardboard carton and a filmstrip projector

were placed in a dark corner of the room. Students were free to use this corner in groups of one to four.

Listening Center:
The music corner combined listening functions and contained a listening post, a phonograph, a tape recorder, recordings, books on music, and a time line of composers.

Art Corner:
In this corner, all the slides, filmstrips, prints, art books, and an individual filmstrip or slide projector were used. Also, individual study sheets on composers and schools of art were filed.

Science Center:
A large portable cabinet contained all science equipment such as the planetarium, microscope, students' science projects, and tools. On top of the cabinet, which was table height, were books relating to areas currently being studied and a programmed course in astronomy.

Math Corner:
This collection included student-derived puzzles, math books, filmstrips, viewer, slide rule, protractors, compass, and a bulletin board on which there was a daily problem to be solved.

This classroom opened onto a small private patio which lent itself well to construction, play rehearsals, painting, etc. It also contained a sink and good storage space. There were many small tables available for use in the various centers of interest.

STUDY SKILLS UNIT

(Three or Four Days)

Student's Objectives

Effective research
Efficient study
Note-taking skills
Effective oral reporting
Effective written reports

Teacher's Objectives

To establish guides for independent learning and the means for self-evaluation in students.

Materials

Filmstrips (Sacramento County):

Learning to Study Series, F.S. 134, 1-7
"Getting Down to Work"
"Giving a Book Report"
"Reviewing"
"Study Headquarters"
"Taking Notes in Class"
"Using a Text Book"
"Writing a Research Paper"

Fundamentals of Thinking Series, F.S. 307, 1-9
"Making Comparisons"
"Looking for Assumptions"
"Problems of Solving"
"Summarizing"
"Observing"
"Critical Thinking"
"Classifying"
"Interpreting"
"Analyzing"

Films (Sacramento County):
"How To Judge Authorities" (10 min., black and white) M4-310
"How To Judge Facts" (10 min., black and white) M4-311

Other (San Juan District A. V.):
Smith Corona 10-day Typing Course with Recording

Procedures

A unit was initiated with a group discussion concerning the needs of individuals to learn study skills. The decision was made that instruction and guidance were needed in the following areas: effective research, efficient study, note-taking, effective oral reporting, and effective written reports. An independent learner must establish means of self-evaluation and it was agreed that individual, group, and teacher evaluations would be integral parts of the summer learning experience.

Note-taking was studied first because the need for this skill was immediate. Notes were taken on films, lectures, reports and were arranged chronologically by subject matter. The student made use of his notes when preparing reports, doing research, reviewing a topic for group discussion, or preparing for a test (Form 1A).

Study habits were evaluated individually with the Time and Motion Study (Form 2) and by checklist (Form 3). Time was allowed in class for preparation and study. If the individual student did not use his time efficiently, he had to complete his work at home, or present it incomplete. The class understood from the beginning that they would be asked to evaluate themselves at the end of the program and the basis for this evaluation was established (Form 4).

Oral and written reporting skills were studied in relation to the Frontiers Unit and in the preparation of research.

Research methods were studied and employed as each student chose a topic to be explored. About two-thirds of the class chose to present their studies orally (Form 5). The remainder of the students used the Written Report Plan (Form 6). Some of the topics selected were: a poll to determine the class's favorite radio station, a diary of foods eaten for one week and average cost per day, and a survey of the political preferences of class members.

Students were encouraged to make use of audio-visual equipment, charts, graphs, scales, and the blackboard in all their oral presentations. Students using the written report plan were expected to makeuse of graphs, charts, and scales. One of the most profitable learning experiences of the entire program resulted. The group showed maturity, consideration, insight, and good judgment in their evaluations of the work of fellow students. The individual students also showed remarkable objectivity in self-evaluation.

Group discussion was studied as a means of communication and a vehicle for the exchange of ideas. Directed discussion and free discussion forms were used. Free discussions had no leader. One person was appointed to keep a tally on how many times each person contributed to the discussion and reported to the group at the end of the discussion. Before the tally report was made, each class member evaluated the discussion on a form devised for this purpose (Form 1B).

One important development of free discussion was the universality of the contributions. The class soon realized that a student who contributed nothing to a discussion was just as detrimental to the process as one who monopolized the discussion, the purpose being a free exchange of information, opinions, and ideas. The class displaye a remarkable degree of introspection and self-discipline during these discussions, and much growth was noted. Two students kept track of and graphed the contributions in each discussion from the first week to the last. There was a steady climb upward in the curve which showed the number of students contributing.

At the end of the summer session, the students were asked to decide which form of discussion they preferred and why. The majority chose the free discussion form. They preferred the informality and opportunity to express themselves while exercising the mental discipline necessary to allow others to speak. The thing they found most difficult was to learn not to argue or monopolize the discussion when someone expressed an opposing opinion.

Typing course--Two typewriters were obtained and a ten-day self-instructing course was procured from the district. Children signed up for the course in pairs and did a lesson a day in another room with a listening post arrangement. Most of the students participated and felt that they benefited from the experience even though there were varying degrees of success. Typing seemed especially popular and successful with the boys, some of whom had particularly poor handwriting. Many students expressed an intention to continue at home and improve upon their newly acquired skill.

SCHOLASTIC LITERATURE UNIT

FRONTIERS

(Five or Six Weeks)

Student's Objectives

To gain an understanding of tomorrow through exploration of yesterday's frontiers.
To study the following literary forms: Short Story, Essay, Novel.
To pursue individual interests through creative writing, research, individualized reading, art, music, science, and mathematics.

Teacher's Objectives

To establish a basic core of subject matter from which enrichment areas could be introduced.
To provide an opportunity for practice of the skills introduced in the Study Skills Unit.

To provide opportunities for individual growth and independent study for each student.

Materials

Filmstrips (Sacramento County:
"How The West Was Won" (color) F. S. 308

Displays (Sacramento County):
Lewis and Clark Expedition (dolls) MI-125
Pioneer Family--Everyday Dress MI-63
Pioneer Family--Sunday Dress MI-64

Films (Sacramento County):
"Kentucky Rifle" (10 min., black and white) M4-349
"Kentucky Pioneers" (11 min., black and white) M4-350
"Lewis and Clark" (17 min., black and white) M8-144
"Oregon Trail" (25 min., black and white) M12-50
"Pioneer Home" (11 min., color) M4-509
"Pioneers of the Plains" (11 min., black and white) M4-510
"Pony Express" (11 min., color) M4-512

Procedures

The class studied and compared the short story, the essay, and the novel.

Directed Discussion Questions on the Essay:

Assignment - Read Peter Lyon's essay, "The Wild, Wild West." Find two examples of irony and be able to relate what you think the author was really saying. Tell in your own words what you think was the author's purpose.

Discussion -

Cognitive Level	1.	What is irony?
	2.	What was the point of the essay?
Memory	1.	Recall the elements of the short story: a. Tells who, what , when, where, why; b. Has a purpose--win sympathy, amuse, surprise, create suspense; c. Captures interest quickly; d. Frequently uses surprise ending.
	2.	Do you remember the purposes of the following short stories: Buffalo Dance, Crawling Cat, and Brother Bill?
Convergent Thinking	1.	How does the essay differ from the short story?
	2.	What are the elements of the essay? (The essay is ued to describe, explain, or express opinion--it is not used to tell a story.)
Divergent Thinking	1.	What if true reports about these men had been sent East?
	2.	What if T. V. programs were based on the true lives of Billy the Kid or Wild Bill Hickock?

Evaluation 1. Why were legends built around these men?
2. Why did the West attract these men?
3. Why were Easterners so eager for stories and paintings of the West?
4. Did the West shape men or did men shape the West?

ENRICHMENT AREAS

Art

Art was introduced through the realistic paintings of the Westward Movement. Realism was followed by impressionism, abstraction, expressionism, and religious art. Each school of art was related to history through a time line. Students had opportunities for individual study of the various schools of art in the Art Corner.

Mr. Edward Larson, a local artist, served as a resource person. He spoke about the challenge of art as a means of communication throughout the ages and gave instruction to interested students.

A trip to the Crocker Art Gallery was arranged for the last week of the summer session so that the students had ample time to acquaint themselves with artists, and many became quite adept at identification of paintings. Many students became interested in various media of expression--oils, tempera, watercolor, sculpture, wood carving, and collage. They were delighted to find two contemporary California artists who specialize in collage displaying their work at the Gallery.

Materials

Filmstrips:
"National Gallery of Art Series," F. S. 284 (Sacramento County)
"Elements of Art Series," F. S. 85 (Sacramento County)
"Life Magazine's Series on Art" (private collection)

Films (Sacramento County):
"Design" (12 min., color) M4-808
"Drawing With Pencil" (11 min., black and white) M4-190
"Perspective Drawing" (8 min., black and white) M4-499

Books:
Painter's Secret Geometry (Calif. Project Talent)
History of Art (County A. V.)
American Art (County A. V.)
Design in Art (County A. V.)
Encyclopedia of Art (County A. V.)
Life Magazine Special Editions on Art (San Juan A. V.)

Slides:
"Impressionism" (set of slides with viewer) (Calif. Project Talent)

Music

Music was introduced through folk and cowboy songs of the Westward Movement and discussed as a natural means of communication between people throughout the ages.

Musical forms and composers were related to historical events and comparable periods of art.

Materials

Recordings (Sacramento County):
"Cowboy Songs, Golden Treasury of" R12-135-7
"Death Valley Suite by Frofe" R10-23
"Folk Songs, Golden Treasury of" R12-135-33
"Child's Introduction to Jazz" R12-135-4
"Folk Songs of Many People" R10-137
"Great Composers" R12-135-14
"Historical America in Song" R12-74-1
"Singing Across the Land" R12-97
Standard School Broadcast (Series 26-19-22)
"Classical Period"
"Romantic Period"
"Nationalist Period"
"Twentieth Century"

Films (Sacramento County):
"Elements of Composition" (27 min., black and white) M12-99
"Music in America" (17 min., black and white) M8-192

Sound Filmstrips (Sacramento County):
"Meet the Instruments" SFS-6

Mathematics

A need for logical and accurate reporting of statistical data was introduced through the individual research projects. Charts and graphs were constructed, and methods of collecting data were also studied. The class became intrigued with the predictability of our number system and enjoyed solving mathematical puzzles and making some of their own.

In the Math Corner were games, books of puzzles, a slide rule, a course on the slide rule, a compass, a gravity compass, a file of student's puzzles, and a programmed course in algebra.

Materials

Filmstrips:
"General Math Series" F.S. 312 (Sacramento County)
"Geometry in Art" 1373 (San Juan A. V.)
"Logic Definitions" 1374 (San Juan A. V.)
"Logic Deductive Reasoning" 1375 (San Juan A. V.)
"Logic Induction" 1376 (San Juan A. V.)
"Logic Mistakes in Thinking" 1377 (San Juan A. V.)

Movies (Sacramento County):
"Algebra, An Introduction" M8-445
"Formulas in Math" M4-823

Science

Science was introduced as enrichment through its relationship with the frontier, space. The students soon identified the more subtle frontiers in research, medicine, and inventions. Scientific methodology was studied, discussed, and applied where ever possible in individual research projects.

Materials

Films (Sacramento County):
"How a Scientist Works" (15 min., black and white) M8-374
"Galileo" (30 min., black and white) M8-362
"Mr. Bell" (30 min., black and white) M12-48

Filmstrips (Sacramento County):
"The Sky Series" F.S. 212
"Space and the Atom Series" F. S. 288

Miscellaneous (Sacramento County):
Trippensee Planetarium Mi-100

Individual Projects for Independent Study

One hour a day was allowed for the development of individual interests and special projects. Some students already had a special interest. Others chose projects related to areas of study in the summer school program. Following is a list of the projects selected by individual students:

Art - oil painting; watercolor painting; pastels; driftwood sculpture; flower arranging (oriental).

Music - history of musical instruments; history of the symphony orchestra.

Language Arts - poetry; writing a novelette; writing and producing a play; writing short stories.

Science - building a computer; building a steam engine; building a crystal radio; making a 6-inch refracting telescope; writing and illustrating a history of the modern horse; classifying and displaying a collection of shells.

FORMS DEVELOPED AND USED

Form 1A--Checklist for Individual Notebook Evaluation

GOOD	SATISFACTORY	UNSATISFACTORY	
			FIRST WEEK Contents to date Organization Neatness
			SECOND WEEK Contents to date Organization Neatness
			THIRD WEEK Contents to date Organization Neatness
			FOURTH WEEK Contents to date Organization Neatness

Form 1B--Checklist for Evaluation of Discussions

Did everyone have a common background?							
Did the class stick to the subject?							
Did everyone participate?							
Was the whole class polite?							
Were the speakers brief and clear?							
Did anyone repeat without elaborating?							
In whole, was the discussion: Good?							
Bad?							

Form 2--Time and Motion Study

Name ______________________ School ______________________

Date ____________ Grade ____________

1. What is your favorite radio program? ______________________
TV programs? ______________________

2. How much time do you spend each day watching TV? ________ Listening to the radio? ________ Reading newspapers or news magazines? ________
Reading other magazines or comic books? ________ Library books? ________

3. How much time do you spend each evening on home chores? ________
Morning? ________ What chores do you do? ______________________
____

4. Do you take music lessons? ________ When do you practice? ________

5. Do you have a hobby? ________ What is it? ______________________
How much time do you spend on it a week? ________

6. To what clubs do you belong? ______________________
How much time do you spend on them each week? ________

7. Do you plan a special time for study? ________ When? ________
How many hours a week do you study? ________ Each day? ________

8. Do you have a well-lighted quiet place for study? ________ Alone? ________.
Are you interrupted often? ________ Do you study with a radio on? ________
TV on? ________ Listening to records? ________

9. Do you plan time for physical exercise? ________ When? ________

10. How do you think your home study habits can be improved? ________
____
____

11. What other questions should have been included on this questionnaire?
____
____
____

Form 3--Checklist of Study Habits and Skills

Rate yourself according to the following:
(1) never; (2) seldom; (3) about half of the time; (4) usually; (5) always.

	1	2	3	4	5
Study Attitudes					
I help to make the classroom a good place in which to study.					
I am able to study well at home.					
I budget the study time spent on various subjects.					
I have a regular time for study at home.					
I hand in my assignments on time.					
I do homework even though I don't want to do it.					
TV, radio, or noise bothers me when I study at home.					
Following Directions					
I list in my notebook the assignments with dates for completion.					
I am able to understand the key points that a speaker is talking about.					
I can understand the main idea of a paragraph.					
I can draw conclusions from an oral report.					
I find it hard to follow exact directions.					
Working With Others					
I do my share of work as a committee member.					
I respect the opinions of others on a committee.					
I have my part of the committee work done when it is due.					
I am able to conduct a meeting of the class.					

	1	2	3	4	5
Securing Information					
I use a notebook for recording information.					
I know how to skim in order to save time.					
I know and use all parts of a book (table of contents, index, glossary, appendix, etc.).					
I refer to the dictionary when I find or hear a word I don't know.					
I listen to at least one news broadcast every day.					
I know how to use the card catalog in the library.					
I can read and understand the symbols on a map.					
I am able to make up a list of questions to ask during an interview.					
Organizing Information					
I take notes when I read.					
I then organize them into an outline.					
I use outlining when I give a talk or write a composition.					
Interpreting Information					
I am able to make a chart or graph from information I have assembled.					
I can illustrate an idea by a cartoon.					
I can tell when a prejudiced point of view is presented.					
Tests and Examinations					
I do my work daily instead of doing it all before the test.					
I begin reviewing for tests at least several days before taking the test.					
I usually pay attention to what the teacher points out as being important.					
At the start of a test I look it over quickly to see what is required.					
I answer the easiest questions first.					

Form 4--Evaluation Form

Subjects	Student's Grade	Teacher's Grade
MATH		
ART		
SCIENCE		
STUDY SKILLS		
FRONTIERS		
Reading		
Writing		
WORK HABITS		
Neatness		
Independence		
Use of Time		

Percentage of Work Completed %

INDIVIDUAL PROJECTS

1. Research Problem	
2.	
3.	
4.	
5.	
6.	

Form 5--Oral Report Plan

I. Organization

A. Introduction--State purpose of research.

B. Methods of Investigation--State the methods by which you obtained your statistical data. Show any forms, diaries, etc., that you used.

C. Results of Analysis of Statistics--What were the results of your findings? Display these results graphically.

D. Conclusions Reached on the Basis of Results--Be careful not to jump to conclusions not supported by your research.

E. Evaluation of Project--Did you answer your initial question? Was your sampling wide enough to make your conclusions valid? How might you improve your methods if you were to repeat this research?

F. Questions and Evaluation by the Class--The class will be invited to ask pertinent questions and offer constructive criticism. The speaker must be mature in his or her thinking and accept criticism gracefully. He must answer questions honestly and squarely and not be afraid to say "I don't know." You are better off admitting that you don't know than you are trying to bluff your way through.

II. Presentation

A. Make outline of report on 3x5" cards. Do not write out all that you will say. You will not read your report. You will talk to the class using the cards as notes to keep you on the track.

B. Time your report, except for section F.

C. You may use transparencies on the opaque projector, charts, chalkboard illustrations, etc. as aids in reporting.

Remember--making an oral report does not mean "reading a paper." It means telling a live audience the most important things that you have accomplished. It means telling the story in a lively, dramatic, interesting way, supported by attractive and effective illustrative material. It means answering questions honestly and accepting criticism gracefully.

Form 6--Written Report Plan

I. Organization

A. The Problem--State your problem clearly and specifically.

B. The Materials and the Methods--This should include a copy of any materials that you used to obtain your data. State your methods of research clearly enough that someone else could try your experiment using your directions.

C. The Observations (Conclusions)--How you summarize your results will depend on the type of investigation you have carried out; but pictures, graphs, and tables are always appropriate. Do not jump to conclusions not supported by your research.

D. Limitations of This Research--Evaluate your own paper. Did you answer your initial question? Was your sampling wide enough to make your conclusions valid? Was the length of time ofyour observations long enough to warrant your conclusions? How might you improve your methods if you were to repeat this research?

II. Basis for Teacher's Evaluation

A. Appearance

1. Is it neat?
2. Is it legible?
3. If typed, is the report double spaced and on one side of the paper only?
4. Are the margins at sides, top, and bottom wide enough?

B. Contents

1. Does it have an appropriate title?
2. Is the problem clearly stated?
3. Does the conclusion answer the question in the problem?
4. Is the conclusion supported by the evidence in the form of data derived from the research?
5. Is the data presented clearly and accurately?
6. Was the student objective and logical in his self-evaluation?

CALIFORNIA PROJECT TALENT

SUMMER SESSION WORKSHOP, 1964

A Demonstration Center with Differential Programs
for Gifted Pupils

COUNSELING-INSTRUCTION

By

John R. O'Neill, Teacher, Seventh Grade
Winterstein School
San Juan Unified School District
Carmichael, California

CONTENTS

Page

INTRODUCTION 9a

STRUCTURE OF THE SESSIONS. 9a

TOPICS FOR STUDY AND DISCUSSION. 9b

GROUP COUNSELING AND INSTRUCTION 9c

RECOMMENDATIONS. 9h

SAMPLE BOOK LIST 9i

CONCEPTS AND VOCABULARY. 9j

The first portion of this paper presents the concepts which help the gifted child become sensitized to sociological, philosophical, and religious problems, while emphasizing literature, vocational guidance, and communicative skills. In making "man" the center of consideration, an attempt was made to highlight for the gifted child a broad, conceptional view, rather than to use an hourly lesson plan approach. The methods which were helpful and those which seemed less effective with this particular group will be noted. While dealing with major facets of man's nature, no attempt was made to foist on the student one cohesive world view, but rather he was encouraged to speculate, organize, and suspend judgment in order that he might crystalize his own philosophy. This teacher understood that any one of these topics could be an entire college course without exhausting the possibilities.

This report is not intended to be completely applicable by any one teacher with any given class of gifted students, but is merely a guide and an imperfect model at best of what was done. The methodology involved is not spelled out except when it was deemed particularly important. This report is primarily a conceptual profile from which each teacher must select the method most suited to his own personality. The curriculum must be fashioned out of the talents, abilities, and interests of the instructor and molded to fit the potentialities of a given class of gifted children.

STRUCTURE OF THE SESSIONS

The course was divided into five weeks, with a general topic assigned to each week. Therefore, one week was spent on each of the following facets: economic man, philosophical man, religious man, governmental man, and sociological-emotional man. While there was an overriding theme for each week, any correlation or interaction noted by the students or the instructor was encouraged.

One hour was used each day to work on a central class project which reached a culmination on the final day. This class published a booklet including original stories, essays, gossip columns, political cartoons, and horror stories. A wide latitude was given on this project in order to secure participation of all members of the group. Another approach might have been to spend a brief period each day discussing and reading each literary art form, such as the essays of Montaigne. Afterward, the students might try writing an original essay. Another class hour was spent in small group discussions which were held on Tuesdays and Thursdays with the counselors.

My students suggested that, when the discussions are held, the chairs be placed in a circle and the students be allowed to chose which group they wished to join. Each group was provided with a set of questions which interlocked with the formal presentations. An "idea box" was in the room for questions which might not be germane to the topic of that moment. On the last hour on Friday, we had a general "grab bag" discussion.

If I were to teach this class again, I would handle the information on vocational guidance as I did the week on religion. That is, I would take the children on field trips to certain areas in the community where they would see the occupations in which they voiced interest. The field trips on religions were highlights of the course.

TOPICS FOR STUDY AND DISCUSSION

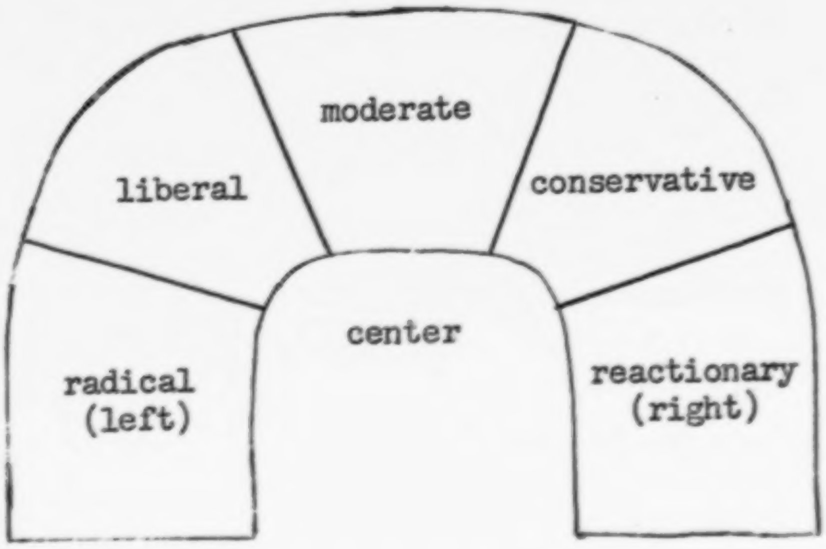
This general outline may be tailored to the interests of students. With man the center of concern, general topics with subheadings can then be handled throughout the week.

First Week	Philosophical Man
1st day	Definition of philosophy Greeks, Plato, Socrates, Aristotle
2nd day	View of the Middle Ages Scholastics, Thomas Aequinas, Boethius, Blase Pascal
3rd day	Rise of Humanism England, Erasmus, Thomas More. . .Utopia
4th day	Age of Reason Voltaire, Rosseau, Deists (Record. . .John Locke)
5th day	Age of Anxiety 20th Century
Second Week	Religious Man
1st day	Rise of Christianity Catholicism
2nd day	Christianity Protestantism
3rd day	Judaism
4th day	Rise of Islam Moslem
5th day	Hinduism and Buddhism
Third Week	Economic Man
1st day	Economic Theory
2nd day	Mercantilism
3rd day	Capitalism
4th day	Socialism Film: "Evils of Industrial Revolution" Oliver Twist?
5th day	Communism (theory) Film: "We Will Bury You"

Fourth Week		Governmental Man
	1st day	Democracy Greeks Plato. . .Republic
	2nd day	Theocracy. . .View of Middle Ages
	3rd day	Fascism Film: "Twisted Cross" (governmental aspects)
	4th day	Socialism (Scientific Socialism) (governmental aspects) Film: "Nightmare In Red"
	5th day	China Sino-Russian Rift
Fifth Week		Sociological and Emotional Man
		Plan discussions which include those guidance areas identified by the teacher-counselor during the previous sessions.

GROUP COUNSELING AND INSTRUCTION

Before one can discuss either government or economics, some concepts must be considered directly. These words are radical, liberal, conservative, and reactionary. The instructor first pointed out that these words have a chameleon-like quality. That is, although they have a basic definition, they take on the color of the century in which they are used. The instructor placed the following diagram on the board and



explained how this seating was established at the time of the French Revolution. The class worked from the standard dictionary meanings and generalized that all of these words refer to the nature of change and the direction of that change.

Since the concepts were quite advanced, the children were constantly assured that they would clarify with use. To relate these words to something physical or concrete was helpful. For example, a group of people in a boarding house discussed the front porch and how it should be repaired. Students were warned that the example chosen was only to assist them and that the terms were seldom used in that regard. Once the class began to see the broad outline of the meanings of these words, the instructor asked questions which referred to both current events and their knowledge of the past. For example: What was Washington at the time of the American Revolution? What was Washington at the time of the Constitution? What is Dr. Martin Luther King? If the students are very keen, the teacher can go into the philosophical implications.

As an interesting exercise, the students clipped newspaper articles which reflected a particular view. Finally and most important, the students explored the nature of their own leanings and discussed how they acquired them and what books presented an intelligent defense of the entire scale. The writings of Tom Paine, Edmund Burke, Barry Goldwater, Walter Lippmann, William Buckley, and John F. Kennedy were cited.

In the opinion of this instructor, economics or government are best taught to young people by first separating them from each other and then re-uniting the various types of government with the various types of economic systems. Nothing is more helpful to young people than to draw a sharper line between a pure democracy and a pure republic. The instructor started with Athens and indicated what direct participation of the entire male Athenian population really meant. After this had been done, the basic weaknesses of Athenian democracy were pointed out. A class discussion was conducted on the characteristics of a democracy and the inherent weaknesses of a pure democracy. One student read aloud Pericles' funeral oration, which best epitomizes the Greek democratic ideal; and the instructor brought Plato's Republic to the discussion. The students were told of the representative nature of a replubic and Plato's view of the inequality of man. One of the students reviewed the life of Plato in order to understand the reason for Plato's disgust toward democracy.

A diagram was drawn on the board showing the similarities and the differences between a democracy and a republic. One procedure which helped clarify this complex issue was to show the students how the United States Constitution established a republic and how it evolved over the years to become a democratic government with a republican form. It was also acknowledged that many groups want to return to the time when the masses had less influence upon our government.

At this juncture the instructor brought in the word "reactionary" and the problem of the lack of democracy in the South. Care was taken to stress the fact that to be a liberal, reactionary, conservative, or a radical is not right or wrong per se but that one's independent, personal choice related directly to one's view of the past, present, and future. The students were also made aware that enemies of freedom can come from either the extreme left or right and that the treatment of minorities within a society is a barometer of the degree of freedom within that society.

The next concept explored was the notion of a theocracy. The examples used were the governmental forms in Europe during the Middle Ages, in ancient Egypt, and in the Massachusetts Bay Colony. (The students might read a defense of the Divine Right of Kings by King James, and the Salem Witchcraft Trials by Starky.) These sources show that when the State and the Church are welded together, a sin becomes a civil wrong. The philosophy of Roger Williams and his views on the separation of Church and State were introduced. (For further amplification, the teacher might read some court cases on this issue and have the class rule on them. It would also be possible to have a jury trial which could be written, directed, and acted by the children.)

The next governmental type considered was fascism. Rather than a specific illustration of the workings of the governments in Italy and Germany, historical antecedents were sketched to clarify the rise of Adolph Hitler, including his violent anti-communist views. The film, "The Twisted Cross," was shown and the issue of whether or not such a thing could occur in our society was explored. Care was taken to stress the safeguards against dictatorship which are built into our federal system. An edited copy of The Rise and Fall of Adolph Hitler by Shiere was available for the students. Another question was, "What conditions contributed to the rise of totalitarian governments?" The film, "Nightmare In Red," was shown to illustrate the capture of the Russian Revolution by a handful of dedicated communists.

Throughout the course the instructor reviewed about five books a day. In their criticisms, the students appeared to enjoy these, although at the time the instructor viewed them as rather routine. The method was to present to the class five books of merit, using the old method of reviewing the book with genuine enthusiasm and withholding the ending. This seemed to have a certain contagion which the students appreciated. The students themselves wrote book reviews which were included in the class project.

The vocabulary words were introduced in different contexts prior to their introduction as concepts. In the discussion of communism, for example, it was found best to define certain words a week before going into the concept in question. A list of philosophical, religious, and economic words are included in the back as an example of the level of the discussions. Particular effort was made to use these words in conversation whenever possible.

For discussions within the class, the students were placed into three groups--A, B, and C, the same as those used by the counselors. These students were very intolerant of what they termed idle chatter; that is, they had a low opinion of the the value of other student's reactions to a topic. Their first session was taped with very little direction from the instructor as to the proper rules for good discussion. After a replay,the students noted their own mistakes and a formal presentation of the skills of discussion followed, including the problem of and the role of the chairman.

The topics under discussion should come from the students themselves, after which subheadings may be needed to guide the discussion. When one of the students noted that the chairman often misconstrued what the group had said, the class decided that the chairman present a majority and a minority opinion, with the group permitted to add comments. Topics which were most interesting were: What are the characteristics of the ideal teacher?, What are the qualities of the ideal parents?, How should teenage children be treated in the home?, What is my own philosophy of life?, How should one choose a career?, Who should act as censor in our society? The job of chairman was rotated so that the responsibility fell on each of them at least once during the course. Their ability in discussion improved vastly by the end of the five weeks.

The consideration of philosophical man began with Greece and that magnetic figure, Socrates. The instructor attempted to sketch the high, ethical nature of the man and how his love of wisdom resulted in his death. The students were impressed with the fact that philosophy is a quest and a pursuit of truth, rather than a final goal. We then read aloud The Apology of Socrates, by Plato, which is part of Scholastic Literature Units. Together they explored the meaning of philosophy, stoic, epicurean, sophists, hedonist, fatalist.

With the introduction of Aristotle, two methods of reasoning were presented. A priori and a posterior were associated with the terms inductive and deductive. It was stressed how different men with differing views have written history, including Thucydides, Herodotus, and St. Augustine. The point made was that the past can never be reproduced completely by anyone and that what one sees depends upon his own philosophical perceptions.

Economics was defined simply as the system man develops to deal with his material world. The students grasped the ancient system of barter easily enough by tying it in with their custom of swapping marbles--in other words, the exchange of goods without money. Then they moved into more formal economic considerations.

To understand the American Revolution, the students needed to understand the outlines of mercantilism. Otherwise, the entire affair looks like "the good guys attacking the bad guys." The following ideas were developed. Mercantilism rests on a favorable balance of trade, more exports than imports, raw materials taken from the colony to the mother country, no colonial manufacturing, dumping surplus population in the colonies, and active government regulation of the economy. The students began to perceive that the British Crown was acting in its own best economic interests when it began to have friction with the colonies. On the other hand, the economic freedom of the colonialists was better understood when the restrictions placed upon them were explained.

Next considered were some reflections made by men on the issue of why the mass of mankind has been poor. Malthus said it was due to overpopulation working in a certain fashion. That is, food supplies increase arithmetically, but the population increases geometrically; therefore, in his view, there must always be a foodgap. The students were then asked whether they thought Malthus' theory was valid today. They concluded it was valid in the underdeveloped areas, but his ideas were invalid in a highly industrial society. The students read Rich Nation Poor Nation by Barbra Ward which deals with the problem of world poverty.

The next great figure mentioned was David Ricardo who accepted the evils of the Industrial Revolution philosophically by saying they were the result of the iron law of wages. Only so many jobs available and there were too many people attempting to get these jobs. As wages fell, people starved, resulting in a manpower shortage. As wages rose, children lived and glutted the labor market; so the process went on ad infinitum. The teacher pointedout that "ideas" can free men to face problems or "ideas" can shut out problems from the view of man. To Ricardo, one could do nothing about the iron law of wages and in fact, one should not upset the natural balance of things.

It was ironic that in the same year as the American Revolution, A Scot, Adam Smith, published the bible of capitalism, The Wealth of Nations. It is relatively easy to spell out to the students the fundamental ideas of capitalism, although they have not thought through the implications of some of these beliefs.

After the instructor has explained Smith's model of classical capitalism, it is profitable to indicate the abuses that occurred during the 19th century. The students relish a discussion on the Muchrakers, Sinclair and Steffens. This will help them to understand that we have rectified many of the gross evils of the last century. After a closer examination of the types of socialism, the students can see more clearly why we have a mixed economy. Socialism means government control over the means of production, but this definition does not say what type of government. The instructor pointed out there are many types of socialism which embrace anything from the democratic forms in England to the totalitarian system of Russia.

Karl Marx, a German, was shocked by the evils of the capitalism of the day in which he lived. He therefore attempted to develop a type of socialism which would correct these evils as well as swallow up all other forms of socialism springing up throughout the world. To hold up his system, Marx borrowed a method of reasoning from Hegel. Hegel gave form to an idea that was as ancient as the Greeks, that truth has within it contradictions and opposites. The arrival at final truth by the reconciliation of opposites is called dialectics. It was pointed out that this was what Socrates was doing during his dialectical questioning. Hegel believed that the final reality was spiritual and mot material. Final truth is dynamic and changing so man must not use a static method of reasoning in order to catch up with it. The students were told it is as if you tried to catch a diesel locomotive with a hand car. Hegel believed that the minute you make a statement about anything in the universe, this becomes a thesis. The opposite, the antithesis, will then spring up. These two ideas will war, one upon the other, crumble and come together in a new system called a synthesis. When the systhesis is complete, it then becomes a new thesis. Marx borrowed this concept but turned it upside-down by stating that the final reality is not spirit, but matter. The students could then see why his philosophy is called dialectical materialism. Marx must be an atheist because there is no room in this system for spirit.

Marx then proceeded in his masterpiece, Das Kapital, to spell out in greater detail what he had merely outlined in The Communist Manifesto. All history was a class struggle in which one group was exploited by another. The most exploited group, in Marx's mind, was the proletariate. The rich, he said, would get richer and the poor, poorer. He predicted that the masses would rise up and erect his system, which he called "Scientific Socialism." This, in his mind, would be the final synthesis. Marx made fun of the other forms of socialism, Fabian, Utopian, and Christian. After these were discussed, the criticisms of communism were introduced. It was noted that Marx's predictions have been in error. In the United States, the middle class has increased in size rather than becoming smaller. The working man in America has improved his condition, not by resorting to communism but by the formation of free labor unions. The capitalist powers have not fallen into decay but are growing stronger and are flourishing. In Russia, the state is growing more powerful and is not withering away. Further, in spite of all the communist propaganda, Russia is a totalitarian society in which opposition is not permitted. It should also be noted that any Christian would find it difficult to accept an economic system based on atheism.

At this juncture it was indicated that our society has made modifications which are in reality forms of democratic socialism even though that word is still taboo in our society. Social Security, T. V. A., and the Post Office are all forms of democratic socialism. Therefore, while we are fundamentally capitalistic, we now have a rather mixed economic system. The system we have has produced the highest standard of living in the world, and the students must know clearly the difference in economic systems so that their choices will be based on facts. It was then possible to show the relationship between government and economics by putting this chart on the board. This helps to explain the fact that capitalism can only exist in a free society, but one can still have private property and profit under fascism. The cost is political freedom. Further, England and other nations have shown that some forms of socialism are compatible with democratic institutions. One could use a national magazine to show the students how this controversy is going on in our society between public and private power. Books which were recommended were, Isms of Today, by Epstein; Ideas Of The Great Economists, by Seoul; and the Capitalist Manifesto, by Dr. Mortimer Adler.

FREE SOCIETY	TOTALITARIAN SOCIETY
Capitalism	Fascism
Dem-socialism	Communism

Although there were about five books reviewed each day, a week was set aside for a consideration of literary man. The central focus during that week was the play by

William Shakespeare, Hamlet. It was introduced through a biography of the Bard of Avon. A few pertinent quotes were interspersed by the instructor to give students a taste of the range of power unleashed by this timeless genius. It was noted that we can all find threads of our own personality in the characters within his plays. Hamlet is a particularly appropriate choice because he is in essence the personification of the dilemma of the intellectual. Confronted by so many alternatives, how does one avoid becoming frozen in inaction?

It seemed best to deal with this play in three steps. The instructor first gave the students a verbal synopsis of the plot and the characters. A showing of four excellent, hour-long color films, entitled "Hamlet," followed. The narrator sketched the historical background of the period, and then showed brief sections of the play enacted by professional actors. The teacher then lead the class in a discussion of the motives of the people involved. On the final day, the record of "The Tragedy of Hamlet" was played. Each student received a brochure so they could follow the play verbatim. This is a special one-hour condensation which is superb and was more appreciated after the preliminary work outlined above.

The students were encouraged to increase their own paperback libraries. It was emphasized that a library well-stocked with books of diverse subjects is more apt to provide for any reading mood in which one might happen to be. A further list of works were pointed out in the college reading list printed in Good Reading.

The week on the religions of man was perhaps the highlight of the course. In class we covered the basic teachings of the major creeds, and then went on field trips to the churches attended by the children in the class. After the class visited each church, there followed a discussion in which the students compared the religions studied and contrasted their basic teachings. The students and the parents all felt that this was a stimulating and rewarding experience which they will long remember.

All of the films which were shown have not been listed since the quality of some was below expectancy. It also appeared that the students resented films which preached morality. For guidance purposes, it might be more profitable to show standard plays in which some ethical value is put forth powerfully.

These students reflected the ideas, values and opinions of middle class children. They seemed to show a lack of empathy with the problems of the lower class. This area should be further explored for its curriculum implications.

Although it was not required, many kept notebooks of the class accomplishments for future use. Throughout this program, the instructor met with the counselors and discussed student attitudes and particular problems. It might have been even more fruitful if some of the children had been given the opportunity for private counseling.

RECOMMENDATIONS FOR SUMMER PROGRAMS IN COUNSELING-INSTRUCTION

(Summarized from John O'Neill)

1. Orientation should be expanded to include meetings with parents, students, and counselors to present the interrelatedness of curriculum, teaching, and counseling.

2. The teacher should hold pre-summer meetings with small groups of applicants to attain a profile of interests and motivation patterns. He would be able to incorporate into his curriculum those topics and projects which are most appropriate for the individuals selected.

3. Opportunities for contact and communication with parents should be available so that they will perceive the instruction as a sober and rational probe into topics that are new at this age level.

4. More tape recordings of discussion sessions would provide fresh data for subsequent teacher-counselor meetings. After the first session, the students quickly adjusted to the presence of the recorder and responded normally.

5. It should be anticipated that measurable changes in attitude or behavior would not be obtainable in a five-week period; therefore, planned follow-up studies of participants would provide information needed for evaluation.

6. Children of high-level ability seem to have become so sensitized to the importance of school grades that they appear apathetic to the dissemination of ideas for which they will not be held accountable. Summer session offers an unusual opportunity for increasing their appreciation of personal growth through evaluation in terms other than letter grades.

7. The success of field trips related to the study of religion suggested that further utilization of community resources would be profitable. For instance, hospitals, courtrooms, and local industries offer possibilities for explorations into vocational interests.

SAMPLE BOOK LIST

(This is a partial list to show the types and range of books reviewed.)

Barnett, Lincoln. *The Universe and Dr. Einstein*.
Burke, Edmund. *Reflections on the French Revolution*.
Ciardi, John. *The Inferno*.
Collins, Wilkie. *The Moonstone*.
Douglas, L. C. *Magnificent Obsession* and *The Robe*.
Durant, Will. *The Story of Philosophy*.
Epstein. *Isms of Today*.
Fast, Howard. *Citizen Tom Paine*.
Lederer, William J., and Eugene Burdick. *The Ugly American*.
Montaigne. *Essays*.
Moorehead, Alan. *The Russian Revolution*.
Opperheim, E. P. *The Great Impersonation*.
Orwell, George. *Animal Farm*.
Oursler, Fulton. *Modern Parables*.
Plato. *The Republic*.
Poe, Edgar A. *Short Stories*.

CONCEPTS AND VOCABULARY

Religions

Moslem
Kaaba
Koran
Islam
Hegira
Allah
pilgrimage
Mosque
caliphs
alms
minaret
polygamy
sultan
infidel
jinn

Hinduism
reincarnation
caste
transmigration
fate
cult
predestination
homage
fatalism
revealed religion
prophet
superstition

Buddhaism

Shintoism

Shintoism
ancester worship
temple
samurai
hara-kiri (seppuku)
shogun
Bushido
asceticism

Judaism
Hebrew

Deism
natural law
mechanical universe

Government
league
confederation
central government
state government
federal
confederation
unitary
world
sovereignty

Forms
monarchy
oligarchy
aristocracy
theocracy
democracy
plutocracy
republic
despotism
tyrants
dictatorship

Types and Terms
fascism
communism
Australian ballot
estates-general
parliament
prime minister
premier
duma
diet
Cortes

Political Spectrum
left
center
right
ultra
middle of the road
liberal
conservative
radical (red)
reactionary

Imperialism
raw materials
markets
insurrection
colonalist
colonist
"whiteman's burden"
jingoist
power politics
nationalism
commonwealth
crown colonies
dominion
annexation
occupation
sphere of influence

Economics
barter
monopoly
mercantilism
balance of trade
tariff
free trade
production
distribution
consumption
capital
depression
unions
factory system
domestic system

Economic (II)
capitalism
free enterprise
socialism
communism
automation
embargo
boycott
laissez-faire
corporation
stock-company
usury
division of labor

Communism
collective government
proletariat
socialist
monocausal
dialectical materialism
utopians
revolution
inevitable
economic-determinism
surplus value

Science
zoology
psychology
sociology
chemistry

biology
alchemy
natural science
natural history

scientific method
skeptic
astrology
astronomy

reason
faith
geocentric
heliocentric

EVALUATION OF THE WORKSHOP

In addition to individual analysis and much discussion within the teaching staff, three evaluations were undertaken: (1) The final session for college adult students was given to a discussion of workshop objectives. Suggestions were solicited and a secretary was present to record the comments in shorthand. (2) A questionnaire was presented to each college adult student at the end of the workshop. (3) Demonstration teachers evaluated their own programs, which were in organization, at least, experimental. This third type of evaluation may be found at the end of each report of special classes--Individual Placement, Enrichment, and Counseling-Instruction.

The group evaluation session was chaired by the instructor, but a rather free atmosphere had developed during the summer and rapport was good. Students were encouraged to comment and offer suggestions on the organization of the workshop, the course content, the individual projects, and the interaction with consultants and master teachers. Student reactions were constructive, on the whole, and favorable. As one might expect, the individual suggestions for changes in the program were not necessarily compatable; but they were recorded for future consideration.

Comments which reflected satisfaction with the effectiveness of the program were summarized as follows.

1. The discussions of common problems and practices and the exchange of ideas were of particular value to the adult students.
2. Workshop members expected an appreciable improvement in their work with gifted children to accrue from this experience.
3. Their understanding of the special needs of gifted children was increased.
4. Several valued the knowledge of the kinds of programs available for the gifted.
5. Certain attitudes regarding practices in programming were reinforced.
6. Appreciation was expressed for the use of Dr. Bishton's library and other materials on the gifted which were made available (local libraries were considered inadequate in this regard).

Suggestions for changes in any future workshop were the reflections of individual students, recorded verbatim in shorthand and summarized below.

1. The view was expressed that the course stressed theory and provided too little involvement with the children in demonstration classes. Some workshop teachers would have liked more interaction with the master teachers and the consultants. A replacement teacher might be provided to release demonstration teachers for discussion and evaluation sessions.
2. Student records and other background information should have been available prior to the workshop. Rather than to develop case studies during the workshop, some adult college students would have preferred to utilize the time in implementation of material previously gathered.
3. Some suggested closer organization between sequence of the workshop course and what was being taught in the classrooms.
4. To have planned individual projects in advance of the workshop would have allowed more time to complete them during the course.

Results of the questionnaire mailed to participating adult college students was tabulated and summarized as follows.

(A total of 23 replies were received from a class of 25 students)

1. Overall Evaluation of Summer Workshop

(Number of
replies)

13 1.1 It will effect an appreciable improvement in my work with gifted children in the 1964-65 school year.

9 1.2 I have gained some ideas and knowledge that will result in some improvement.

0 1.3 I have gained little from this workshop.

1 No reply.

2. Affective Domain

(Number of
replies)

14 2.1 Improvement in attitude--empathy and in feeling toward gifted children.

8 2.2 Little effect on my attitude.

1 No reply.

3. What part of the workshop was most beneficial?

"Discussion of common problems and practices." "Discussion groups." "Independent project--round discussions." "Lectures. Interaction with other students, demonstration school. Library. Opportunity to work on an individual project." "The individual projects and the exchange of ideas." "Exchange of ideas with consultants, Dr. Bishton, and students." "Talking with and exchange of ideas between members of the class." "Exchange of ideas with others who are actually in the field, doing." "Interaction of group itself and discussion with consultants." "Orientation to Project Talent by state consultants. Social interaction of group and independent study." "The opportunity to work with the fine staff and workshop." "Class discussion with Dr. Bishton." "Difficult to say--each part, in its own way, was of value." "Discussions lead by Dr. Bishton. The climate of a relaxed learning situation quite stimulated and freed many of us to discuss our problems and seek solutions. Dr. Plowman seemed more interested in us and in seeing we understood the program than some of the other consultants. He was more down to our level." "Discussions with Dr. Bishton--group 'give and take.'" "Class open discussions with Dr. Bishton." "Group interchange with Dr. Bishton, Group discussions." "Sharing of ideas with other teachers. Observations." "Sharing of ideas."

4 No reply. (Some expressed the view that this was covered adequately during the oral evaluation.)

4. What aspects of the workshop might have been improved?

"Demonstration school being more closely set up to follow what the class is talking about." "Less theory, more involvement." "Organization." "Seemed to be a lack of communication among people in charge." "Organization of program sequence." "Some consultants dwelt too long on areas we are too well aware of; so nothing new resulted in our learning." "Better orientation with the classroom teachers before workshop began." "This was covered in Dr. Bishton's discussion." "More practical demonstrations by consultants. Better selection of master teachers." "Demonstration teacher selection. More graphic overview of existing programs. Less structured approach by consultants." "Organization." "More opportunity for observation and meetings with the master teachers for evaluation and discussion."

9 No reply. (Some expressed the view that this was covered adequately during the oral evaluation with Dr. Bishton and the class.)

Suggestions for Improvement.

"Our planning with the demonstration teachers ahead of the children's arriving--1 or 2 days. In this way we could find out what they hope to do with the children and how they would try to do it. Then we would have a better basis to discuss what we see." "We work with children on projects rather than case study gadgets. Plan classroom demonstrations to illustrate consultants' points. Place stress on creativity of teachers. Involve them in methods or techniques useful in: (1) ideation and selection of materials, (2) problem solving techniques, and (3) developing own dimensions and criteria for materials and activities." "Stagger hours for observation. More contact with demonstration teachers. Opportunity to see Miss Broderick teach a class. More orientation the first week." "A more careful evaluation of the instruments thrown at the group." "Perhaps, people who are teaching in the field could help plan the workshops." "An introduction of master teachers and students in classroom backgrounds with adult students and consultants with development of overall coordinated programming for remainder of weeks of course." "(1) Experts in each subject area might challenge us with informative ideas, slides, etc.--enrichment glorification; (2) More preparation in setting up program to better meet our purposes." "Have meeting with teachers beforehand--know more about children, cum folders, etc., earlier (covered earlier." "No teacher who has not worked with these children before should be classed as a master teacher of gifted children." "More real 'bull-session' type discussions with consultants." "I did enjoy the contributions of the consultants. They gave me a much-needed background. I only feel it could have been condensed because of shortness of time. Also they could have used more of their time sharing specific ideas for implementing the goals they defined."

12 No reply. (Some expressed the view that this was covered adequately during the oral evaluation with Dr Bishton and the class.)

5. Would you be interested in participating in another summer workshop in:

Sacramento	11
Los Angeles	1
San Francisco	1
Bay Area	5
San Diego	1
Fresno	0
No preference	1

Yes	19
No	2
No reply	2

6. If number 5 was answered "yes," in what capacity?

18 6.1 Adult Student

2 6.2 Demonstration Teacher

0 6.3 Other

1 No preference.

7. Would you like to have us place your name on a mailing list to receive materials as they are developed or processed by California Project Talent?

20	Yes	0	No	3	No reply

Comments from teachers were reported in some detail because they formed the basis for refinements in the 1965 workshop.

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* This bibliography was prepared by Rodger Bishton, Professor of Education, Sacramento State College.

APPENDIX

A. Pupil Application Forms

B. Summer Workshop Announcement Brochure

C. Questionnaire to Adult Students

Pupil Application Forms

Form A1--Application for the Enrichment Program

MAX RAFFERTY
Superintendent of Public Instruction
and Director of Education

EVERETT T. CALVERT
Chief Deputy Superintendent

FRANCIS W. DOYLE
Deputy Superintendent; Chief,
Division of Special Schools and Services

RICHARD M. CLOWES
Associate Superintendent; Chief,
Division of Instruction

RONALD W. COX
Associate Superintendent; Chief,
Division of Public School Administration

PAUL F. LAWRENCE
Associate Superintendent; Chief,
Division of Higher Education

STATE OF CALIFORNIA
DEPARTMENT OF EDUCATION
721 CAPITOL MALL, SACRAMENTO 95814
California Project Talent

Dear Parent:

Your child has been nominated as eligible for participation in a special summer school program which is being offered in the San Juan Unified School District. The class will serve as an observation class for the Sacramento State College Summer Workshop for teachers of academically talented children.

Pupils will be offered activities which are not presented in the regular school program. The development of critical appreciation in fine arts, opportunities for creative written expression, and instruction in scientific methodology will provide challenging experiences in areas of varied interest.

The class will meet from 8:00 a.m. to 12:30 p.m., Monday through Friday from June 29 - July 31, 1964, at Winterstein School, 900 Morse Avenue (off Fair Oaks Blvd. between Fulton and Watt).

Early enrollment is recommended; it will be possible to accommodate only 30 pupils in the class.

Sincerely,

Louise Bachtold
Education Research Project Consultant
California Project Talent

APPLICATION FOR SUMMER SCHOOL

Name ______________________________ Date ______________
(last) (first) (middle)

Address ______________________________ Phone ______________

School ______________________________

(1) I wish to participate in the summer school class because ______________
____

(2) My special interests are ______________________________
____

(3) I would like to work on the following special project ______________
____

____
(Signature of Pupil)

Mail to:

Louise Bachtold
Winterstein School
900 Morse Avenue
Sacramento

I hereby give consent for my child to participate in the special summer class.

____
(Parent or Guardian)

Pupil Application Forms

Form A2--Application for the Counseling-Instruction Program

MAX RAFFERTY
Superintendent of Public Instruction
and Director of Education

EVERETT T. CALVERT
Chief Deputy Superintendent

FRANCIS W. DOYLE
Deputy Superintendent; Chief,
Division of Special Schools and Services

RICHARD M. CLOWES
Associate Superintendent; Chief,
Division of Instruction

RONALD W. COX
Associate Superintendent; Chief,
Division of Public School Administration

PAUL F. LAWRENCE
Associate Superintendent; Chief,
Division of Higher Education

STATE OF CALIFORNIA
DEPARTMENT OF EDUCATION
721 CAPITOL MALL, SACRAMENTO 95814

California Project Talent

Dear Parent:

Your child has been nominated as eligible for participation in a special summer school program which is being offered in the San Juan Unified School District. The class will serve as an observation class for the Sacramento State College Summer Workshop for teachers of academically talented children.

Pupils will be offered activities which are not presented in the regular school program. They will have opportunity to discuss in depth sociological and philosophical concepts in social studies and in literature. Within small-group meetings, pupils will explore their own values in relation to cultural values. A unit in vocational guidance will deal with educational and other basic considerations in career planning.

The class will meet from 8:00 a.m. to 12:30 p.m., Monday through Friday from June 29 - July 31, 1964, at Winterstein School, 900 Morse Avenue (off Fair Oaks Blvd. between Fulton and Watt).

Early enrollment is recommended; it will be possible to accommodate only 30 pupils in the class.

Sincerely,

Louise Bachtold
Education Research Project Consultant
California Project Talent

- -

APPLICATION FOR SUMMER SCHOOL

Name ______________ , ______________ ______________ (last) (first) (middle) Date ______________

Address ______________________________ Phone ______________

School ______________________________

(1) I wish to participate in the summer school class because ______________
____

(2) My special interests are ______________________________
____

(3) I would like to work on the following special project ______________
____

____
(Signature of Pupil)

Mail to:

Louise Bachtold
Winterstein School
900 Morse Avenue
Sacramento

I hereby give consent for my child to participate in the special summer class.

____
(Parent or Guardian)

Pupil Application Forms

Form A3--Reply to Applicants

April 21, 1964

Dear ________________________:

Your application for enrollment in the special summer school program for California Project Talent and Sacramento State College has been accepted.

Class will begin at Winterstein School at 8:00 a.m. on June 29th. If there should occur any change in your plans which would affect your attendance, please let me know immediately. Applications exceeded the number we could accept, and we have a waiting list of those interested in participating should an opening occur.

Sincerely,

Louise Bachtold
Education Research Project Consultant
Winterstein School
900 Morse Avenue, Sacramento

LB:lb

Pupil Application Forms

Form A4--Letter of Enrollment and Permission

________________ School

May 11, 1964

Dear ________________________________:

You were recently invited to attend a meeting on May 6 to discuss a special summer program for selected second grade children. Class activities were described as adaptable to individual need and interest. Pupils who have developed beyond grade level in skill areas will be offered enrichment experiences in science, art, and social science. Those who wish advancement in any of the skill subjects will be provided this opportunity as well as enrichment.

At the end of the summer school, children who are considered well prepared for fourth grade will be recommended for this placement in the fall semester. The summer session will be held from June 29 to July 31 in the Winterstein School, 8:00 a.m. to 12:30 p.m. If you wish your child to participate, please sign the permission slip, and return it to me.

Sincerely,

____
Principal

- -

We, the undersigned, recommend that ____,

presently in grade 2, participate in an accelerated instructional program so that upon successful completion of the program, he or she may enter grade 4 in September.

______________________________ Teacher

______________________________ Principal

I agree to my child's participating in the planned acceleration program.

______________________________ Parent

Summer Workshop Announcement Brochure

Form B

Auspices of:

- Sacramento State College
- California Project Talent
- San Juan Unified School District

Lecture Periods

- Most Recent Research
- Teaching Methods
- Programming for Mentally Talented Pupils

Class Observation • Elementary Grades

- Acceleration without "Grade Skipping"
- Enrichment
- Interrelation of Counseling and Instruction

Case study forms
Evaluation instruments
Individualized curriculum materials
} provided

for study and use with pupils in laboratory classes

COURSE TITLE

A Demonstration Center with Differential Programming for Gifted Pupils

DATE • June 29 - July 24, 1964
UNITS • 4
COST • $ 57
HOURS • 8 - 12 AM
PREREQUISITE • Assignment to teaching gifted children

For further information • Dr. Rodger Bishton • S. S. C.

PLEASE POST

Workshop Staff

Louise Bachtold	Consultant for California Project Talent
Rodger Bishton	Professor of Education Sacramento State College
Mary Broderick	Consultant for California Project Talent
Paul Plowman	Director, California Project Talent
Joseph Rice	Director, California Project Talent
Vivian Sherman	Consultant for California Project Talent

*

Laboratory classes located in San Juan Unified School District

PRE-REGISTRATION FORM

Return to Sacramento State College • 6000 J St.
Sacramento, California 95819

NAME

ADDRESS

SCHOOL

GRADE LEVEL

*

ENROLLMENT LIMITED

Questionnaire to Adult Students

Form C

Some questions about the effectiveness of the Workshop and Demonstration Program sponsored by California Project Talent, Sacramento State College, and the San Juan Unified School District--Summer 1964.

1. Overall Evaluation of Summer Workshop

_____ 1.1 It will effect an appreciable improvement in my work with gifted children in the 1964-65 school year.

_____ 1.2 I have gained some ideas and knowledge that will result in some improvement.

_____ 1.3 I have gained little from this workshop.

2. Affective Domain

_____ 2.1 Improvement in attitude--empathy and in feeling toward gifted children.

_____ 2.2 Little effect on my attitude.

3. What part of the workshop was most beneficial?

____

____ (Please elaborate on reverse side.)

4. What aspects of the workshop might have been improved?

____

____

Suggestions for Improvement

____

____

____

____

____

____

5. Would you be interested in participating in another summer workshop in Sacramento, Los Angeles, San Francisco, Bay Area, San Diego, Fresno or another area of California?

____ yes

What area?

____ no

6. If number 5 was answered "yes," in what capacity?

6.1 Adult Student ____________________

6.2 Demonstration Teacher ____________________

6.3 Other (please name) ____________________

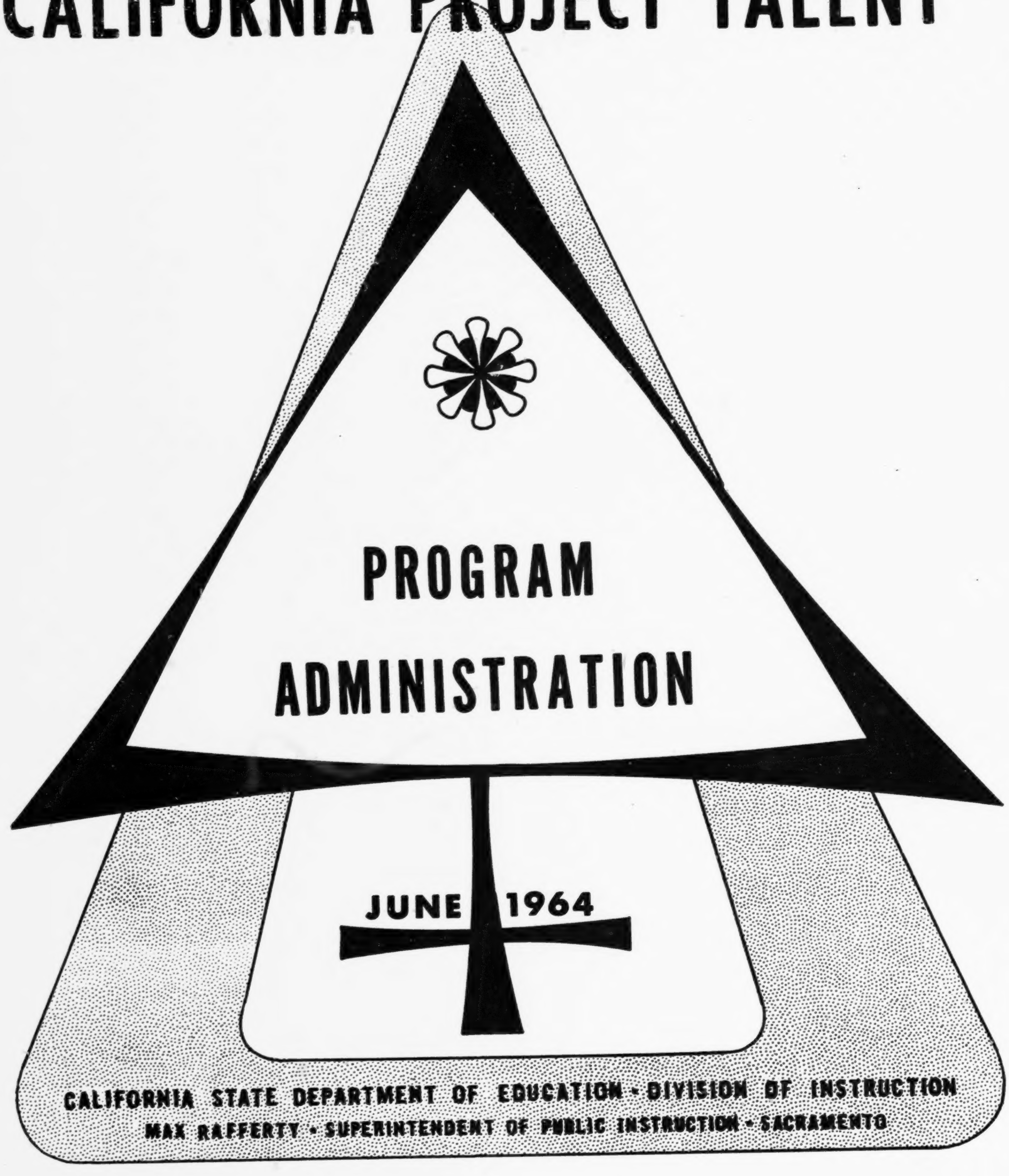
7. Would you like to have us place your name on a mailing list to receive materials as they are developed or processed by California Project Talent?

____ yes

____ no

APPENDIX IV

CALIFORNIA PROJECT TALENT



PROGRAM ADMINISTRATION

JUNE 1964

CALIFORNIA STATE DEPARTMENT OF EDUCATION • DIVISION OF INSTRUCTION
MAX RAFFERTY • SUPERINTENDENT OF PUBLIC INSTRUCTION • SACRAMENTO

Administration 1

*

REVISED GUIDELINES FOR ESTABLISHING AND EVALUATING PROGRAMS FOR MENTALLY GIFTED MINORS

REVISED GUIDELINES FOR ESTABLISHING AND EVALUATING PROGRAMS FOR MENTALLY GIFTED MINORS

by
Paul D. Plowman
and
Joseph P. Rice, Jr.
Co-directors of
California Project Talent

Introduction

This printing of the "Guidelines" contains additional information based upon legislation and some revisions in the bibliography. Appendix "A" and "B" have been added.

Appendix "A" includes items on: (1) Identification and Case Study Procedures; (2) Evaluating Educational and Counseling Programs; (3) Secondary Programs.

Appendix "B" contains models for curriculum development and evaluation. These models are based on the Bloom "Taxonomy of Educational Objectives," the Guilford "Structure of Intellect," and factors of creativity.

This expanded version of the "Guidelines" has been prepared for use in inservice education activities of California Project Talent.

Publication of this edition of "Guidelines for Establishing and Evaluating Programs for Mentally Gifted Minors" was supported through the Cooperative Research Program of the Office of Education, United States Department of Health, Education, and Welfare.

CONTENTS

Page

1. General Criteria 1

2. Minimum Standards 1
   2.1 Identification 2
   2.2 Individual Case Study Records 3
   2.3 Consent of Parent or Guardian 3
   2.4 The Written Plan 4

3. Criteria for each of the State-Identified Programs 6

4. Criteria for Excess-Cost Reimbursement 9

5. Criteria for Teacher Selection 11

6. A Resume of Administrative Code Sections Regarding Correspondence Courses 12

7. Guidelines Suggesting Ways in Which Each of the Six State-Identified Programs are Especially Adapted for Certain Pupils, Schools, Communities, and Teachers 13

8. Bibliography 20

9. Appendix "A"

Identification; Evaluation; and Secondary Programs.

"Identification and Case Study Procedures" - by Joseph P. Rice
"Evaluating Educational and Counseling Programs" - by Paul Plowman and Joseph P. Rice
"Secondary Programs" - by Paul Plowman

10. Appendix "B"

Models for Curriculum Development and Evaluation. These are based on the Bloom "Taxonomy of Educational Objectives"; the Guilford "Structure of Intellect"; and factors of creativity.

"Creativity" - by Thelma Epley
"Developing Creative and Cognitive Abilities" - by Fresno County Schools
"Test Building and Test Banks Through the Use of the 'Taxonomy of Educational Objectives'" - by Leon Lessinger
"Classification of Creative Activities and Experiences into the Primary Mental Abilities of Human Intellect" - by Frank Williams

GENERAL CRITERIA--All Programs

1. Inaugurating programs that are consistent with the educational philosophy of school district.

2. Seeing to it that programs are integral parts of the regular educational program.

3. Being sure that administrators and other personnel are committed to purposes and supportive of programs.

4. Selecting teachers who understand and who relate well with mentally and creatively gifted children.

5. Providing consultant help--systematically planned for and readily available to teachers.

6. Making provision for special in-service education or teacher training prior to and/or concurrent with teacher's participation in special educational programs for mentally gifted minors.

7. Doing careful screening and identifying of mentally gifted minors.

8. Placing pupils in special educational and counseling programs--differentiated for high-achieving, high ability pupils; low-achieving, high ability pupils; high ability pupils with special problems.

9. Orienting the entire school staff (once or twice a year) on the characteristics and needs of gifted children, on the progress of special educational programs for these children, and on how they might make a significant contribution in the lives of these children.

10. Using the special competencies of teachers, counselors, psychologists, consultants, administrators, board members, and parents in planning the various interrelated dimensions of guiding, counseling, and teaching mentally and creatively gifted children.

11. Assessing the impact of counseling and teaching--assessing the impact of special educational programs--upon skills, attitudes, and behavior; evaluating the effects of such programs upon children, upon teachers, upon the total educational program, and upon parents and the community.

MINIMUM STANDARDS

Section 199.12 of Article 23, Subchapter 1 of Chapter 1 of Title V of the California Administrative Code* established certain minimum standards for programs for mentally gifted minors.

*Including amendments added by State Board of Education action May 10, 1962. Minimum standards listed are legal requirements unless otherwise indicated.

These minimum standards govern identification, individual case study records, "consent" as a prerequisite to participation, a written plan which must be available for public inspection, and what constitutes an approvable program during the regular school term and during the summer.

1. Proper Identification

1.0 Responsibility of administrative head of the school district or employee of the district designated by him.

Based upon a study
  (1) by a committee:
    School principal
    Classroom teacher familiar with school work
    Pupil personnel worker qualified to administer and interpret tests of mental ability
    Other person or persons

  (2) of all available evidence of a pupil's general mental ability.

1.1 Individual tests---130 I.Q.*

- 1.10 Such as the Revised Stanford Binet Scale, Form L-M
- 1.11 Mandatory K-3
- 1.12 After 1965, mandatory K-6
- 1.13 Administered by persons credentialed for this purpose

1.2 Group tests---98th percentile*

- 1.21 General mental ability
- 1.22 Reading achievement or Arithmetic achievement
- 1.23 Use of different tests for 1.21 and 1.22
- 1.24 Use of Test Publishers' Norms or, when properly established, California Grade-Level Norms
- 1.25 Use of Test Publishers' Cut-off scores indicating 98th percentile or above for group tests
- 1.26 Beginning July 1, 1963--use of tests on list approved by the State Board of Education
- 1.27 Test scores of tests administered within 36 months of the date of identification

1.3 Judgments

- 1.30 Limited to pupils in grades 4-12
- 1.31 Limited to 3 percent of participating mentally gifted minors
- 1.32 Teachers familiar with demonstrated ability of mentally gifted minors
- 1.33 Psychologists familiar with demonstrated ability of mentally gifted minors

*or above

1.34 Administrators familiar with demonstrated ability of mentally gifted minors
1.35 Supervisors familiar with demonstrated ability of mentally gifted minors.

2. Maintaining Individual Case Study Records

The individual case study record should be an open-ended, continuing document containing pertinent, up-to-date information. This information should be highly significant in planning educational and counseling experiences and programs for mentally gifted minors. These records:

2.1 *Should be used to:

- 2.11 Focus attention upon the unique needs, interests, and abilities of these children
- 2.12 Help school personnel assess motivational structure
- 2.13 Assist teachers in planning educational programs which are uniquely tailored to individual students
- 2.14 Serve as a basis for evaluating programs and as a basis for appraising effectiveness of efforts to help each student
- 2.15 Provide information useful for research.

2.2 *Should include:

- 2.21 All pertinent evidence found by the committee which made a study of qualitative and quantitative dimensions of the pupil's general intellectual ability
- 2.22 Information regarding interests and attitudinal factors
- 2.23 Academic records - including standardized test scores
- 2.24 Indications of creativity
- 2.25 Descriptions of behavior and of changes in behavior
- 2.26 An assessment of needs and indications as to how the school might see to it that these needs are met
- 2.27 Career and educational goals
- 2.28 Family background and an assessment of the influence of the family and peer group on the child
- 2.29 Samples of his work
- 2.2-10 Biographical data describing the significant events in his life and how he feels about school, college, work, his country, persons with whom he associates, and himself.

A comprehensive Case Study record has been developed by California Project Talent. Sample copies are available.

3. Consent--As a Prerequisite to Participation

3.1 Parent or

3.2 Guardian or

3.3 Other person having custody of the mentally gifted minor

3.4 It is recommended that parents be notified of their children's "mental giftedness" and that written consent for participation in an educational or counseling program for mentally gifted minors be obtained during an

---

*Recommended

interview with both parents or other persons (3.2 or 3.3) rather than by means of written communications.

3.41 The interview may provide an excellent setting for developing understandings, avenues of communication, and working relationships. These may be crucial to success in maximizing the value of special counseling and instructional programs.

Parents have special knowledge about their children, opportunities for further observation, and the ability to provide special experiences. They have special skills and knowledge which make them excellent resources personnel for pupils and for teachers. They usually have a "built-in" empathy for additional effort to improve the quality of educational experience.

They are important factors in developing community attitudes which may significantly affect the success of programs for gifted children.

3.42**In the interview, inform parents or other persons (3.2 or 3.3) of:

(1) Test results
  a. What they mean
  b. What they do not mean
(2) Findings of the committee (Required by Section 199.11)
(3) Advantages of special programs
(4) Disadvantages of special programs
(5) Special opportunities available to their child.

3.43**In the interview:

(1) Assess attitudes of parents and how these attitudes might aid or hinder their child.
(2) Mutually share, consider, and develop ideas, concrete ways, and a plan for working together. Indicate to parents that the school would welcome their ideas as to how the school can be of most help to their child or children.
(3) Be ready to suggest what the parents might do in the way of providing materials and experiences.
(4) Get written consent as a prerequisite for children to participate in a mentally gifted minor program.

4. A Written Plan

4.1 Available for public inspection*

4.2 Stating purposes

4.3 Stating general goals which pupils are expected to achieve

*To facilitate public inspection, to make the written plan readily available to persons new to a community, large school districts, especially, may want to house the written plan or a copy of the written plan in each of its schools.

**Recommended

4.4 Describing special activities--carried on as part of the program

4.5 Describing special facilities used

4.6 Describing special materials used

4.7 Describing methods used in evaluating the success of the program

4.70 *General principles; evaluation should:
  (1) be pertinent with respect to specific goals
  (2) begin early
  (3) be continuous
  (4) be comprehensive

4.71 *Areas for evaluation
  (1) effect on pupils
  (2) effect on total educational program
  (3) effect on teachers
  (4) effect on community and parents

4.72 *Principles regarding methodology employed; evaluation methods and devices should:
  (1) focus on changed behavior of individuals
  (2) employ processes and result in data useful
    a. in improving instructional procedures
    b. in improving attitudes, insight, motivation, willingness, and ability of teachers, consultants, and administrators with respect to educating mentally gifted minors
    c. in interpreting the program to and in gaining the support of parents and the local community.
  (3) reveal how the purposes of the program have been realized
  (4) reveal the extent to which individuals and groups of pupils have achieved general and specific goals
  (5) be uniquely suited to assess creative thinking, critica thinking, and social leadership
  (6) avoid the pitfalls involved in:
    a. matching control and experimental groups of children on the basis of I.Q. alone
    b. judging effectiveness of a program solely in terms of academic achievement
    c. limiting evaluation to garnering the opinions of pupils, teachers, and parents.
  (7) see appendices "A" and "B"

*Recommended

CRITERIA FOR THE SIX STATE IDENTIFIED PROGRAMS

1. Enrichment in Regular Classes

1.1 Additional educational activities planned to suit
    special abilities
    special interests

1.2 Use of advanced materials

(1)* Readily accessible within the classroom or building
(2)* Idea-generating, thought-provoking; hypothesis-engendering charts, displays, books, glass, metal, cloth, forms, etc.
(3)* Examples:
    resource books
    audio-visual materials
    experimental materials
    independent-study materials
    programmed-learning materials

1.3* Special help to pupils directly through persons other than the regular classroom teacher

1.4* Special help to pupils indirectly through persons other than the regular classroom teacher

Several principles suggested for this type of program are:

1. That the advanced materials, especially for children in grades 4-12, be at a reading level two grades or more in advance of the level of the class**.

2. That the content of the advanced materials be more advanced and possibly more complex than reading materials normally used at the grade level where the child is assigned.

3. That advanced materials for the most part should be readily accessible within the classroom or school building.

4. That the written plan for enrichment programs contain a rich variety of enrichment suggestions on a grade-level, course, or instructional-level basis.

5. That regular meetings with the consultant and principal are recommended for the teacher involved for the first time in an enrichment program for mentally gifted minors.

---

*Recommended

**The important thing is that they be of sufficiently advanced interest and conceptual levels to challenge gifted children. In some cases the reading level of these materials might actually be at or slightly above grade level.

2. Correspondence Courses and Tutoring*

Both correspondence course work and tutoring may enable those mentally gifted minors who are underachieving, those who have special problems, those highly advanced children with specialized talents, and those with highly advanced knowledge to take particular advantage of the opportunity to study by themselves.

2.1 Correspondence courses

2.11**For the most part, correspondence courses should be offered only when students are not able to fit such courses easily into their scheduled special educational program of instruction.

2.12**A teacher or counselor should be assigned to supervise the correspondence work of pupils, to discuss assignments, to suggest additional resource material, and to proctor examinations.

2.13 These courses should be offered by properly accredited institutions and should be equivalent to high school courses offered by the University of California, Extension Division.

2.14 To qualify for excess-cost reimbursement, it will be necessary for the course of study of such courses to be officially adopted as an approved course of study by the local board of education.

2.2 Tutoring

Both correspondence course work and tutoring may enable mentally gifted minors who are underachieving or who may have special problems to take particular advantage of the opportunity to study by themselves. In some cases it may be desirable to have a close working relationship between the local school counselor and the tutor employed.

It is quite possible that by means of correspondence course work and tutoring, students will be able to extend their educational experience far beyond the regular high school or elementary school course offering.

Persons used as tutors must either be properly certificated or they and their pupils must be under the immediate supervision of a credentialed teacher while the pupils are being tutored. See the "Criteria for Teacher Selection."

3. Placement in Advanced Grades or Classes

The basic criteria for this type of program are:

3.1 That placement of this nature is made on an individualized basis

---

*See: Article 12, Section 101, Chapter 1 of Subchapter 1 Title V, California Administrative Code; Article 3, Section 8301, 8302, Chapter 4, California Education Code.

**Recommended

3.2**That the child is likely to profit:

3.21 by being in an environment likely to elicit greater use of productive and creative energies and/or talents.

3.22 by completing college and graduate work one or two years early with the likelihood of greater productivity and creativity in early adult life.

3.3 That the grades or classes are, in fact, more advanced.

3.4 That pupils receive special instruction outside of the regular classroom in order to assist them in handling the advanced work.

3.5**That the receiving teacher is empathetic and is ready, willing, and able to work with the person giving the special instruction outside of the regular classroom.

3.6**That guidance and counseling functions facilitate the transition.

4. Attendance in College Classes by High School Students*

Some of the criteria that might be suggested for this type of program are:

4.1 That the college instructors involved are favorably disposed toward the program and that they are willing to provide extra guidance that may be necessary.

4.2 That students are able to leave their regular school of attendance, perhaps after a minimum day, in order to attend these classes.

4.3 That there is some indication that the student attending college will be able to do above average work.

4.4 That attendance in college courses will not jeopardize the student's chances to exert leadership at the high school level.

4.5 That the student is mature enough to take on the responsibilities of college work and association with adults at the college level.

5. Special Counseling or Instruction Outside Regular Classes

5.1 That students in the special counseling or instruction receive additional educational opportunities which are not provided in the regular classroom.

5.2 That they participate on a regular and planned basis.

5.3 That the special activity be conducted outside of regular classes.

*See: Sections 5706.5 and 5709 of the California Education Code regarding Junior College Attendance by High School Students.

**Recommended

6. Special Classes Organized for Gifted Pupils

   6.1 That these classes be organized to provide advanced or enriched work for pupils with superior mental ability.

   6.2 That these classes be conducted during the regular school year or during a summer session.

Summer Programs

On May 10, 1962, the California State Board of Education authorized school districts to claim excess-cost reimbursement up to $20.00 per mentally gifted minor in an approved summer program for gifted children*

Note: Summer programs may encompass any of the six identified programs.

Summer offers special opportunities for:

(1) conducting pilot programs

(2) establishing demonstration schools

(3) providing in-service education for teachers

(4) experimenting with new materials

(5) providing children with special counseling--instructional programs designed to help them to understand and to encourage full development of interests and aptitudes.

Of considerable value are opportunities for gifted children to acquire a high degree of proficiency in such skills as reading, speaking, computing and typing. In some instances, individual summer research projects might well require gaining some competence in the use of calculators and computers. Leadership development programs, orientation to college, special workshops - e.g. drama, music, art, journalism, television, radio--, and wide horizons programs might also be conducted during the summer.

CRITERIA FOR EXCESS-COST REIMBURSEMENT

1. Items for which excess-cost reimbursement is claimed can be reasonably classified as:

   1.1 Current expense of education

   1.2 Pupil transportation

   1.3 Fixed charges

2. These expenses claimed:

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*See: Subsection (g) of Section 199.12 of Title 5 of the California Administrative Code.

2.1 Were incurred solely for providing the special program.

2.2 Are directly related to pupils enrolled during the fiscal year in the special program.

2.3 Would not have occurred had the program not been initiated.

2.4 Are readily identifiable in the accounting records of the district. Budget items especially for "MGM Programs" might be identified by an asterisk (*) or by some other symbol.

3. Current expenses of education include only those items which may be classified as follows:

   3.1 Identification of pupils

   3.2 Individual counseling of pupils

   3.3 Individual counseling with parents

   3.4 Counseling with pupils and parents

   3.5 Special consultant services

   3.6 Special instructional materials

   3.7 Special instructional services

   3.8 In-service education for teachers

   3.9 Textbooks and other books

   3.10 Special tutoring services

   3.11 Other services specifically approved by the Superintendent of Public Instruction

4. Additional principles related to claiming excess-cost reimbursement:

   4.0 Excess-cost reimbursement may be claimed on the basis of participating pupils, identified by State criteria and in an approved program for a period of at least 17 weeks or for a regular school year.

   Excess-cost reimbursement for summer school is based upon mentally gifted minors attending an approved program for a minimum of 55 minutes a day for 20 days. The Fourth of July may be counted as one of the 20 days even though the school is not maintained on that day. Excess-cost reimbursement may now be claimed for expenses incurred on Saturday.

   4.1 Current expenses of education

      4.11 Identification costs apply to: Pupils participating during the same fiscal year in an approved program.

While participation in an approved program is a prerequisite to claiming costs of identification, it is not necessary that this identification be reaffirmed by testing each year that a child is in a special program.

4.12 Expenses of testing--only those directly relating to mentally gifted minors identified.

4.13 Teacher's salary--for special class rather than regular class programs.

4.14 Salaries claimed as excess costs--being adequately described along with job assignment in a letter from the superintendent of schools, action by the Board of Education, or by contract.

4.2 Transportation

Transportation from home to school is not counted as transportation entitling a school district to excess-cost reimbursement. Transportation from the regular school of attendance to places for special educational experiences may be counted, provided that the transportation is not part of a district's regular transportation program involving regular bus schedules and involving all students.

Transporting high school seniors from their high school to and from a class at a junior college, college, or university; transporting students to and from a special after-school seminar program; and appropriate trips are examples of pupil transportation which could qualify a district for excess-cost reimbursement.

Transportation within the state is reimbursable if it does not exceed a radius of 110 miles from the school or schools of the school district. Use of district facilities for outdoor science and conservation education is authorized.

CRITERIA FOR TEACHER SELECTION

1. Teachers of mentally gifted minors should be:

1.1 Creative in

1.11 thought
1.12 production
1.13 classroom organization
1.14 teaching methods
1.15 materials
1.16 experiences planned

1.2 Well organized

1.21 Deliberately advancing aspects of creativity and mental giftedness
1.22 Using teaching methods, developing experiences, and employing methods of evaluation that are:

(1) consistent with general and specific program goals and specific purposes, needs, and interests of individual children.

(2) based upon a philosophy of education, principles of learning, a knowledge of social conditions, and awareness of relevant facets of personal, intellectual, and social development of each student.

1.3 Enthusiastic--by example, instills a joy of learning, discovering, "self-starting," and sense of "mission" for personal growth and for improving society.

1.4 Endowed with a sense of humor, empathy, and personal warmth that encourages gifted pupils to talk about, to think about, and reflect upon the things that are most important to them.

1.5 Knowledgeable--Possessing broad knowledge, including superior knowledge in one field, an understanding of related fields, and insight into how knowledge from various fields may be applied in analyzing and in arriving at solutions to problems.

1.6 Flexible

- 1.61 In recreating and restructuring the physical environment
- 1.62 In using materials and equipment
- 1.63 In structuring and restructuring interest--learning--personality--developing groups and classroom experiences
- 1.64 In planning lessons and in modifying lessons to capitalize on a "moment of" or opportunity for learning.

1.7 Aware of the capabilities and needs of gifted pupils.

1.8 Resourceful in searching for and obtaining special materials, in becoming acquainted with and using resource persons, and in locating out-of-school places where children and youth may have worthwhile educational experiences.

1.9 Providing special educational opportunities for each gifted pupil.

INSTRUCTION BY CORRESPONDENCE IN SECONDARY SCHOOLS

Article 12, Section 101, Chapter 1 of Subchapter 1
Title V, California Administrative Code*

The governing board of a school district maintaining one or more secondary schools may, subject to these rules and regulations and upon authorization of the Superintendent of Public Instruction, provide pupils with instruction by correspondence, and pay the cost thereof.

(a) The governing board of a school district maintaining one or more secondary schools shall, through the superintendent of the district or the principals of the secondary schools, apply for the authorization of the Superintendent of Public Instruction on forms provided by the State Department of Education. Information required on such forms will include the name and grade placement of the pupil, the subject to be studied by correspondence, the reasons for not teaching this subject in the school, the cost of the instruction by correspondence, and the name of the institution providing instruction.

(b) The governing board of a school district maintaining one or more secondary schools may pay the cost of instruction by correspondence only when the pupil is enrolled in the regular day schools of the district.

*See also Article 3, Sections 8301 and 8302, Chapter 4, California Education Code.

(1) The governing board of a school district maintaining one or more secondary schools shall not pay the cost of instruction by correspondence for persons enrolled in classes for adults.

(c) The governing board of a district maintaining one or more secondary schools may pay the cost of instruction by correspondence only in subjects which are listed in the course of study for the secondary school as adopted by the governing board of the district and approved by the State Board of Education.

(d) The governing board of a district maintaining one or more secondary schools shall provide supervision by a certificated employee of the district for each student who is receiving instruction by correspondence.

(e) The governing board of a district maintaining one or more secondary schools shall determine the amount of credit to be granted to a pupil upon the successful completion of a correspondence course.

(1) Not more than 40 semester periods of instruction by correspondence shall be approved for credit toward graduation from high school and not more than 20 credit hours shall be approved for credit toward graduation from junior college.

GUIDELINES SUGGESTING WAYS IN WHICH EACH OF THE SIX STATE-IDENTIFIED PROGRAMS ARE ESPECIALLY ADAPTED FOR CERTAIN PUPILS, SCHOOLS, COMMUNITIES, AND TEACHERS

The guidelines in this section are suggestive only. They indicate a way of looking at children, programs, teachers, schools, and communities. Essential, still, is the matter of planning experiences in an educational program or in educational programs for individual children.

Care should be taken not to assume that certain types of mentally gifted minors must only be assigned to certain types of programs. Any one of the six identified programs might be highly significant in the lives of socially-mature, high-achieving pupils. Any one of the six identified programs may conceivably transform a rebellious, non-conforming, underachieving gifted child into a child who because of sufficient challenge and interest no longer rebels against his teacher and his school, has due regard for other persons while expressing his individualism, and who reduces the gap between his potential and actual achievement.

Placement in programs for mentally gifted minors should not be looked upon as a reward for docility and conformity. Counselors and school psychologists should be just as ready to discourage as to encourage placement in specific programs. Placement should be made on the basis of all available evidence pointing to the likelihood of success in a given program.

With these things in mind, consideration can be given to programs especially adapted to certain types of pupils, schools, communities, and teachers.

#1

GUIDELINES

Enrichment in Regular Classes

Especially Adapted for:

Type of Mentally Gifted Pupil	Type of School	Type of Community	Type of Teacher
1. Curious; desirous of more detailed or thorough knowledge.	1. Committed to the concept of the self-contained classroom.	1. With limited funds for initiating special programs for mentally gifted minors.	1. Who normally groups for instruction or gives individualized instruction and assignments.
2. Possibly not physically or socially mature enough for special-class or acceleration programs.	2. With a curriculum which has not been greatly modified by applying research findings pointing to the need for greater depth and specialization upon the part of teachers.	2. With few students who might be classified as mentally gifted.	2. Broad cultural background.
3. May need a somewhat sheltered classroom environment---one that does not make him stand out as someone special and one that does not exert too much pressure upon students.	3. Which heretofore has not placed special emphasis upon meeting the unique educational needs of gifted children.	3. With attitudes favorable to enrichment as the primary method for educating the gifted.	3. Empathetic
4. May be underachieving in terms of his potentialities.	4. Which can give consultant help (by consultant, psychologist, or administrator) to the teacher on a weekly basis.		4. Interested in gifted children and willing to acquire understandings, insights, self-assurance and special skills necessary for working with gifted children.
5. May be from a barren environment or may lack verbal skills.	5. Which will make an effort to procure special materials needed by individual children or cluster groups of mentally gifted children.		
6. Needs to react and will, in a cluster-group situation, have opportunities to react with intellectual peers.	6. Which will provide inservice education for teachers of mentally gifted minors and which will orient the entire school staff on the needs of these pupils and on how all teachers might make significant contributions in the lives of these children.		
7. Needs personal, social, and academic guidance woven into classroom experiences.			

#2

Correspondence Courses and Tutoring

Especially Adapted for:

Type of Mentally Gifted Pupil	Type of School	Type of Community	Type of Teacher
1. Those who work well alone.	1. Willing to give full credit for work completed by correspondence or tutoring.	Almost any type.	1. Local school counselor, dean, teacher, or other guidance-oriented person.
2. Those needing a minimum amount of direction from the teacher.	2. Willing to let students pass courses by examination.	Rural, isolated schools might provide some instruction via:	2. Subject-matter specialist in the area of the correspondence course.
3. Those with exploratory or "specific-interest" needs for information not met in the local school or community.	3. Having a small teaching staff and/or a limited course offering.	Educational television, radio, ham radio, exchanged recording tapes, and programmed learning materials.	3. Person with proper credential and with some experience in tutoring.
4. Tutoring for low achieving mentally gifted pupils and those pupils with special emotional problems.	4. Attempting to fulfill needs of students on an individual basis.		4. Person who is sometimes supplemented by resource persons in the community.

#3

In Advanced Classes
(acceleration)

Especially Adapted for:

Type of Mentally Gifted Pupil	Type of School	Type of Community	Type of Teacher
1. High-achieving.	1. With administrators and teachers sympathetic to children being placed in advanced grades.	1. Where the prevailing philosophy is that of "Let the Best Man Win", as opposed to the philosophy which equates "equal education" with equal experience rather than with equal opportunity to advance and to receive teacher assistance.	1. Subject-matter specialist.
2. Emotionally mature.	2. Which places students in advanced classes only after careful study of the child, his motivational structure, interests, and needs.	2. Where intelligent behavior is respected and deliberately cultivated for the benefit of individual pupils and for the benefit of society.	2. Empathetic.
3. Physically mature.	3. With multigraded classes.	3. Where there is a large concentration of professional and scientific-technical personnel.	3. Guidance-oriented.
4. Generally seeking and able to interact satisfactorily with older companions and adults as intellectual peers.	4. Junior high school or high school with advanced sections in various subjects.	4. Where there is a large concentration of parents who see the school as an agency for social mobility and for helping children achieve a higher socio-economic level.	4. Flexible.
			5. Sympathetic toward the concept of acceleration.

#4

High School Students Attending College or Junior College

Especially Adapted for:

Type of Mentally Gifted Pupil	Type of School	Type of Community	Type of Teacher
1. High-achieving.	1. With flexible program.	1. Which maintains a community or junior college.	1. "Student-centered" subject-matter specialist.
2. Emotionally mature.	2. With a number of electives offered during the senior year.	2. College-centered community.	2. Relates well with high school students.
3. Generally seeking older companions and adults as intellectual peers.	3. With persons who will assume responsibility for liaison with the college administration and with college teachers.	3. In which colleges or junior colleges are conveniently located near to high schools.	3. Willing and able to fulfill a guidance role.
4. Able to pursue a college course in which students must assume a great deal of responsibility for taking notes, organizing ideas presented in books and/or by teacher, for planning and doing library research for papers and/or projects, and for reviewing for examinations.	4. Able to make transportation arrangements for pupils.		4. Interested in high intellect and outstanding achievement.
5. With verbal skills comparable to those of average college freshmen.	5. Interested in articulating the instructional program at the high school with the program at institutions of higher education.		5. Concerned with articulating instructional programs and with carefully assessing and promoting development of concepts within a meaningful frame of reference.
	6. Interested in meeting specific needs of individual students.		6. Able to help students develop creative thinking skills, a worthwhile set of life-directing values, a joy of learning, and social responsibility.

#5

Special Counseling or Instruction Outside Regular Classes

Especially Adapted for:

Type of Mentally Gifted Pupil	Type of School	Type of Community	Type of Teacher
High-achieving MGM. Low-achieving MGM. MGM with special problems. Students with special counseling and guidance needs. Students with advanced instruction needs. Students able to participate with a minimum of supervision in an individual study or individual research program. Students needing certain remedial or advanced skills.	Able to organize separate small-group counseling programs for high-achieving gifted children, underachieving gifted children, and gifted children with special problems. Able to coordinate out-of-school resources in a seminar program. Able to focus attention and effort of teaching and of counseling staff on needs of individual students. Able to use this program as a means of helping students acquire necessary remedial or advanced skills. Able to provide this additional educational and counseling activity on a regular and planned basis outside of regular classes, during or outside the regular school day.	Interested in an educational program focusing guidance and instructional effort on the self-fulfillment and optimum development of each child. Has parents and other adults who are willing to act as resource personnel.	1. Counselor. 2. Guidance-oriented teacher. 3. Remedial teacher. 4. Subject-matter specialist with ability to coordinate seminar program using resource persons from business, scientific industry, government, institutions or higher education, and the professions. 5. Psychologist.

#6

Special Classes Organized for Gifted Pupils

Especially Adapted for:

Type of Mentally Gifted Pupil	Type of School	Type of Community	Type of Teacher
High-achieving pupil. Pupil with specialized or highly specialized interests. Pupil with record of high achievement in a specialized area of knowledge. Mature enough to be challenged by and to profit from increased competition.	Able to make provision for advanced or enriched classes during the regular school year or during a summer session. Alert to and with knowledge of characteristics of gifted and highly gifted students.	Interested in and aware of the importance of developing "excellence."	Subject-matter specialist. Team including two subject-matter specialists and an aid assisting in the preparation of demonstration, experimental, and display materials.

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APPENDIX "A"

Identification

Evaluation

Secondary Programs

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IDENTIFICATION AND CASE STUDY PROCEDURES FOR MENTALLY GIFTED MINORS

by
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March, 1964

Identification, certification, and placement of mentally gifted minors into special programs is a complex and challenging task. As with all artificial classifications, definitions may be vague, evaluation possibilities may be too new to be practical or even useful, and competing classifications and categories may tend to detract from and obscure the original intentions of the program. The category of "mental giftedness" is artificial because, of course, it is arbitrary; the point at which you cut off the sub-population is open to much speculation.

The Process of Identification.

Essentially, giftedness can be thought of as a potentiality for significantly superior performance in the areas of intellectual functioning. Giftedness may manifest itself in achievement, scholarliness, and ultimate professional attainment. With adequate preparation and inclination, giftedness may culminate in productivity. Hopefully, the cognitive superiority linked with giftedness interacting with an accumulation of cultural knowledge, values and societal expectations will finally lead to self-actualization and personal fulfillment. The identification process should be planned, therefore, so as to gather data describing the full range of the individual's intellectual abilities, assess the individual's productive output including some appraisal of his capability for innovation, and make some judgments concerning the individual's total personality functioning.

Identification must be a "process" rather than an "act". It is not static. Literally, it is never completed. Its development must be punctuated by frequent and periodic data gathering situations. As these new data feed back into the general case study of a pupil, modifications must be introduced into the pupil's program. Since the gifted pupil is, by definition, significantly deviant from the general population in some if not all intellectual categories, he must be supplied with an educational program uniquely designed to complement his intellectual differences. Such differences include both quantitative and qualitative characteristics. Typically, this human being can function faster and more accurately than others. This indicates the need for more quantity and diversity of materials. Also, he tends to think in ways qualitatively different from his peers. For example, whereas normal primary children typically employ trial and error methods, this child will already be applying various methodologies for problem solving. Introduction to these methodologies would be obviated since they are already well known to him. Rather, an approach to problem solving utilizing sophisticated scientific methodology, sampling techniques, various logistic approaches, and the use of mathematical logic would actually be more "practical" for his use even in the early grades. The process of identification becomes integral with the operation of program planning and curriculum construction.

Purposes for Identification and Case Study.

Different agencies sometimes have disparate reasons for defining or delimiting a given category. For example, the state defines mental giftedness rather rigidly for financial as well as other reasons. Local districts, on the other hand, will probably want to be more profound in defining this category. Therefore, every district will need to evolve indigenous definitions, rationales, and philosophies of education which are consonant with their collective consciences as well as the realities of the social forces produced in their particular communities. The all-encompassing purpose for identification of a select group will need to stem from a genuine desire to meet disparate individual needs with diverse and differentiated educational programming.

The practical purposes for establishing and conducting identification procedures would include the following:

(1) Certification--A committee of professional workers having been provided with operational criteria will need to certify the fact that certain individuals conform to these criteria and are bona fide candidates. This certification, unfortunately, has a certain finality built into it. Therefore, such certification must be based upon accurate, extensive, and varied data.

(2) Placement--Identification must lead to intelligent placement of the individual into a new program pattern or sequence theoretically better suited to his unique characteristics. Such placement must be justified by the nature of the case history gathered and the prognosis made. For example, placement into an acceleration-type program must be justified by the presentation of unambiguous data indicating that the child is emotionally stable, socially acceptable to older groups, physically sound and perhaps even superior as well as being intellectually precocious.

(3) Anticipation of Problems--During the identification, problems as well as potential difficulties must be accurately anticipated. Of particular importance is the study of the child's social and cultural milieu. Do his parents plan realistically for his future? Do his parents or his siblings misunderstand, envy, or in any way disparage his capabilities? Would his placement into a "prestige" program place him in an untenable position with his friends? Obviously, there is literally no end to the kinds of questions that must be raised in every case.

(4) Prognosis for Success--Many program alternatives must be considered in every case. Tentative estimates of success should be entertained about every alternative even though the individual is placed in only one of the alternative programs. For example, most broad program alternatives could be divided into the following four categories: (a) advanced placement of some sort, (b) special grouping or segregation, (c) special counseling or instruction outside of the regular school day, or (d) enriched activities in the regular classroom. A differential prognosis based upon the available data might be made for each of these four alternatives. Variables which mitigate against special grouping or advanced placement would need to be specified. Contrariwise, data which would tend to support these alternatives should be clearly postulated.

(5) Systematic Follow-up and Evaluation--A main purpose of the case study aspect of the identification process should be to continue to collect data on a systematic and periodic basis in order to provide feedback for program modification and a basis for pupil progress evaluation.

Outline for the Identification Process.

Ideally, the identification process should begin in kindergarten and continue the entire school career. A breaking point in this process occurs at the time of certification. Prior to certification, the identification process tends to be historical. Data are collected concerning the individual's development and a thorough assessment is made of his various potentialities with particular focus upon his mental abilities. Subsequent to certification, the identification process becomes more or less synonymous with the accumulation and use of a case study. The main categories within the case study have, of course, already been described by the kinds of case history and psychometric variables collected.

The first time a pupil is considered for possible certification and program placement, the following steps might be followed:

(1) Screening--Some form of group device might be used to determine whether or not a given group of individuals scored in a significantly deviant fashion. Candidates who do not so score can be easily eliminated from further consideration on an efficient and logical basis.

(2) Nomination--Subsequent to the screening procedure, a list of possible nominees becomes available. From this list of potential nominees, principals, teachers, and others may attempt to match candidates with appropriate selection criteria provided by their school district and based upon the education philosophy of the district. Nomination forms can be designed to include definitions and criteria for selection. In a sense, the nomination forms become identification instruments of sorts since they will call upon the person who nominates to supply valid criteria as justification for their nominations.

(3) Examination and Case History--A qualified person such as a school psychologist should assess the intellectual abilities, personality functioning, past achievement, social and emotional adjustment patterns, developmental history, and specimens of productivity of the nominee. A case study form can be designed for this purpose and include questions pertaining to the pupil's attitudes, motivation, special skills, talents, interests, future plans, social maturity, educational background, health and development, home and family relationships, and other significant data. Such a case study can be designed in terms of the kinds of questions we will want to answer about this student's potentiality for inclusion in various program patterns. For example, certain of the areas mentioned, such as attitudes, motivation, and social maturity, may be more significant and related to the problem of advanced placement.

(4) Certification and Placement--A committee of professionals preferably including teachers, trained psychologists, and administrators should study all of the data collected with a view toward placing the pupil in an appropriate program pattern. As a part of this certification, case conferences should be held with the parents in order to acquaint them with the data collected and reflect their viewpoints in the final determination. The placement procedure should not be viewed as final. This decision must be constantly subjected to revision following the collection of more information. The pupil himself should play a key role in the placement procedure. Should the pupil, for any reason not wish to accept a given placement, his wishes should be respected.

(5) Periodic Follow-up--Perhaps every 36 months the entire case study record should be reassessed in the light of the new evidence that has accumulated in it. Among the new data should appear the following: mental ability and achievement test results, general aptitude results, indications of vocational interests, academic records of performance, anecdotal notes by teachers, discipline record, opinions and attitude changes of parents, and periodic self-evaluation and appraisal by the student himself.

(6) Evaluation--Evaluation of two sorts needs to occur for ultimate program success. Each pupil needs to be evaluated on a yearly basis with reference to his academic increment of growth, interest in the special program, and general development in areas other than achievement. At a group level, general increments of academic growth need to be measured and, preferably, compared with those gains recorded for similar or matched groups. Also, the institution needs to weigh such intangible factors as general faculty morale, public acceptance of the program, general cultural contribution of the program and usefulness and adaptability of techniques and materials for general curriculum development.

The Structure of the Case Study.

California Project Talent has developed a rough draft of a case study intended to be intensive as well as extensive in terms of the data collected.

Survey instruments were developed to "appraise the total child from multiple perspectives in a variety of situations". The case study is designed to collect the following kinds of information:

(1) Background Information--This information would include historical and developmental data.

(2) Health and Medical Record --This would include typical health data including measurements and indications of serious problems, illnesses, or the like.

(3) Screening and Nomination Form--This form is intended to collect from the classroom teacher working in cooperation with the school psychologist the bulk of the background information necessary to make decisions concerning certification and placement of the pupil. The usual test data, cumulative record data, and anecdotal notes from teachers are collected. In addition, a series of specially designed items which lend themselves to multiple choice decisions have been developed to appraise the pupil's intellectual functioning, his interest areas, his performance in terms of actual classroom output, his physical development, his social development, his emotional development, and other potential problem areas.

(4) Parent Inventory--The parent supplies the school with a description of such factors as occupational background, description of the family unit, indications of superior performance in the home, family activities, vocational and other expectancies on the part of parents for their child, the child's typical extracurricular activities, and suggestions for meeting the child's special needs. An inventory similar to that checked by the teacher is administered to the parent. Interesting comparisons of the way in which parents and teachers view the same child can be made. Contradictions would need to be reconciled of course.

(5) Psychologist's Summary and Evaluation--The professional worker organizing the study of the child needs to develop an effective summarization and recommendations. He would interpret the data along with a self-appraisal by the pupil.

Summary.

Initially, a mentally gifted minor should be identified on the basis of all available data. Evidence of giftedness must be gathered from the school, the home, and the pupil's self-evaluation. The final certification should be based upon an individual assessment of the case study record and the child himself by a school psychologist working in conjunction with an academic committee consisting of teachers and administrators.

On a minimum basis, an individual intelligence test, a record of excellence in achievement tests, a case history indicating precocious development, a case study showing clear indications of emotional and social maturity, and recommendations from classroom teachers should be included in the final decision. The certification committee should view differential program possibilities such as advanced placement, special grouping or program enrichment hypothetically. They should pose each of these possibilities and attack or defend them with the objective data collected. The entire process should never be viewed as static or terminal. It literally continues to develop throughout the school career of the child. Periodic data which both evaluates the child's performance and the program in which he performs should be collected on a yearly basis.

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Max Rafferty
Superintendent of Public Instruction

CALIFORNIA STATE DEPARTMENT OF EDUCATION
Sacramento,14, California
March 20, 1963

EVALUATING EDUCATIONAL AND COUNSELING PROGRAMS FOR GIFTED CHILDREN

by
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Division of Instruction

The basic purpose of evaluation is to assess strengths and weaknesses and to provide information necessary for improvement. To be of maximum value, evaluation of educational and counseling programs should be pertinent with respect to specific goals. It should be started early, be continuous, and be comprehensive.

Comprehensive plans for evaluation might be developed to show strengths and weaknesses of a program with respect to effects on children, effects on teachers, effects on the total educational program, effects on the local community and effects on parents.

Some of the dimensions important in assessing effects on children are: growth in ability to relate ideas and to note the significance of data, ideas, and events; extent of knowledge; refinement of skills; attitudes; interests--breadth and depth; motivation; fluency of ideas; degree of concentration; constructive discontent; and ability to assess behavior and accomplishments of other students and of teachers.

Some of the dimensions of assessment showing effects on teachers are:
Noting the extent to which teachers use data from the case study record in individualizing instruction.

Indications of professional growth are:
Improved feelings of competence, degree of preparedness, and attitudes toward gifted children.

Important too, is involvement in curriculum development, in college courses, and in creative use of materials and equipment.

A number of school districts have reported that their programs for gifted children have had positive effects on their entire educational program. Some of these effects might well be criteria useful in evaluating other programs. Teachers, consultants and administrators might ask: "Do our programs for the gifted result in upgrading of expectations; increasing interest in and respect for intelligence; putting teachers in a more vital discovery role with children; raising the general level of achievement of classes, grades, and schools; and in renewing interest in curriculum improvement, learning theory, and guidance aspects of teaching?"

Finally, to ascertain effects of gifted-child programs on parents and on the community, one might ask, "What questions do parents still have about the program?" Crucial, too, is the willingness of parents and members of the general community to support the program and to serve as resource personnel.

Five principles are suggested regarding methodology employed. Evaluation methods and devices should:

1. Focus on changed behavior of individuals.
2. Employ processes and result in data useful:
   - a. In improving instructional procedures.
   - b. In improving attitudes, insight, motivation, willingness, and ability of teachers, consultants, and administrators with respect to educating mentally gifted minors.
   - c. In interpreting the program to and in gaining the support of parents and the local community.
3. Reveal how the purposes of the program have been realized.
4. Reveal the extent to which individuals and groups of pupils have achieved general and specific goals.
5. Be uniquely suited to assessing creative thinking, critical thinking, and social leadership.

In a letter dated February 8, 1963, Dr. James Gallagher gave us permission to duplicate a portion of his publication, "Analysis of Research on the Education of Gifted Children." This very useful statement on evaluation is included here as guidelines to personnel charged with the responsibility for evaluating educational and counseling programs for mentally gifted minors.

EVALUATION OF SPECIAL PROGRAMS

By James J. Gallagher*

The problem of evaluating special programs for gifted children, or special programs of any sort, in the public school system is fraught with many unusual difficulties for the research person. In the first place, he is often required to evaluate a program already in progress and will have had little or no opportunity to act as a consultant on policy decisions at the time the program was initiated. His participation or consultation in the formulation of these policy decisions could aid tremendously in the validity of the final evaluation of such a program. Also, the research person often does not have the authority to make certain changes in the school structure which would enable him to make a more effective evaluation of the program. There is no easy road to travel for a proper evaluation. The many programs for gifted children now being initiated in the country will eventually be called to account and asked to justify their expense by demonstrated results. How many will be able to provide these results? In the past, a number of these programs have attempted evaluation in a way which has been less than satisfactory and which has given equivocal results. It is the purpose of this section to point out some of the problems involved in evaluating programs for gifted children by first pointing to some of the problems and then suggesting some solutions.

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*Gallagher, James J., "Analysis of Research on the Education of Gifted Children" (Urbana, Illinois: State Department of Education, 1960).

1. It is not possible to demonstrate the effectiveness of a given program by showing that the gifted children in the special group will score two, three, or four grade levels above their own chronological age on achievement tests.

Reason: Gifted children in the regular program are already performing extremely well from an achievement test standpoint. This has been shown by Terman (1925), Witty (1930), Gallagher and Crowder (1957), and many others. Test results that favor the special group do not answer the question of what these youngsters might have done if they had been in the regular program. There is every reason to believe that they would be well above their own chronological age level in achievement whatever the program.

2. It is not possible to prove the effectiveness of a program for the gifted by giving achievement tests before the program begins and after it is completed.

Reason: This double administration could show, for example, that the gifted children in the special program have gained two or two-and-a-half years in reading during one school year. However, we know that in the regular program, gifted children often gain in achievement well over the expected rate of growth of the normal child. This merely shows that accelerated educational growth can happen in the special program but still does not answer the question as to whether these youngsters might not have done just as well if not, indeed, even better in the regular program.

3. We cannot demonstrate the effectiveness of a program for gifted children by obtaining the opinions of people connected with the programs, i.e., teachers, parents and children, when these opinions have not been supported by objective measures of some sort.

Reason: Subjective evaluations or opinions have been shown in many experiments in psychology to be subject to conscious or unconscious bias. As a simple example, many of the parents may be happy that the school system is providing a special program for their youngsters and will give a favorable evaluation in order to see the program continue. Teachers not previously aware of the special characteristics or virtues of these youngsters because they had been subdued in a classroom of 35 or 40 children now pay more special attention to them and see those favorable characteristics which might have been present all long. They may misinterpret their own changed perceptions of the children to the advantage of the program.

Finally, there is the phenomenon called the "Hawthorne effect" in which there is the strong suggestion that people will react favorably to any program which evidenced a greater interest in the parents and their children.

One frequently used method of obtaining information about a program that can be called into special question is the questionnaire approach.

Questionnaires about programs almost invariably get a positive response partly because people--parents and others--don't wish to respond negatively when people of good faith are trying hard to do something. Secondly, the most disgruntled of the recipients of the questionnaire often do not answer the questionnaire, so the only answers that the researcher gets back are predominantly positive and favorable.

The central question as to what the gifted youngsters would have done if they had not been in a special program is one which points up the necessity of a control group. This is a group of youngsters presumably equal in important respects to the special group. The control group enables the investigator to evaluate what the special group might have done under ordinary circumstances.

4. The benefits of a special program for gifted children will not be demonstrated by comparing these gifted children with the rest of the children at their grade level.

Reason: Obviously, if one takes the brightest children in the group and puts them in one group and keeps all the rest for "controls," then the achievement obtained by the special group may be due, not to the special educational program, but merely to the large difference in intelligence between the two groups to begin with.

5. It is not possible to demonstrate the benefits of a special program for gifted children by showing that children in the special group, even when matched for IQ, are superior if they have not been matched for other important factors also.

Reason: Level of intelligence, obviously, is not the only characteristic closely related to achievement. For example, another important known factor is motivation. Most of the programs which are evaluated after the fact, that is after the program is well in progress, will often be comparing gifted children of high motivation (for that is the reason they were placed in the special program in the first place) with gifted children who might be of the same intellectual ability but who have miscellaneous motivational or attitudinal or family problems which kept them from being selected for the special group. Obviously, a comparison of the achievement of the two groups does not give us a clear picture upon which to base the evaluation of a special program. The difference between the two groups may be merely reflecting the difference in achievement that is related to good motivation vs. poor motivation.

6. A program for gifted children cannot be adequately evaluated if measuring instruments are not adequate or appropriate to measure the unique nature of the program.

Reason: The use of improper or inadequate measuring instruments could result in not giving full credit to the difference which the special program may have really brought about in the children. Most programs for gifted children put a high premium on the development of such characteristics as creativity, originality, ability to do critical thinking, leadership, etc. Unless the measurements which are to evaluate changes in the children include measures of these characteristics, then the evaluation is inadequate.

Administering a standard achievement test before and after the program, even if the students have been selected with care, will not tell you what you want to know, since there is very little on a standard achievement test that is related to the ability to be creative or to show leadership. Unfortunately, these characteristics are among the most difficult to measure. This fact, in turn, calls for someone with some knowledge and sophistication in the area of measurement to help plan the evaluation. School systems that do not have staff members who can help in this area should seek adequate consultant help before embarking on such a program.

Effective Research Designs for Program Evaluations

The most commonly used research designs to solve the above stated problems is that of matched groups with one group receiving the special treatment while the other, presumably equal, group is receiving the regular program. To be truly equal, these groups must be matched or shown equivalent on all of the variables that you believe might exert an untoward influence on the final result. This means that such factors as motivation and emotional stability will have to be matched for as well as intelligence and achievement. No comparison between highly motivated groups of children in special class programs and an unmotivated group of gifted children in the regular program can be of much use in evaluating the effectiveness of the special program.

This procedure is most difficult to effect when the research person is asked to evaluate a program already in progress. The special group has already been determined; they are the children in the special program. Who is left for the control group? If gifted children are found in the regular class, then a pertinent question to be answered is, "Why aren't they in the special program?" If the answer is that they can't achieve to the level of the special group or don't want to learn or are emotionally disturbed, then they cannot be members of the control group. Only those children who would be eligible on all important characteristics for the special group should be used in the control group. This means that youngsters would be acceptable for control group membership although not able to attend the special program by reason of geography or other reasons not connected with ability or interest in the program. The easiest way to match children without bias is to select them prior to entrance in the program although that is not always possible.

Another variation of the matched groups approach is the use of the children in the special program as their own control group. This is done by comparing their rate of academic or emotional or social growth during a time interval when they are not in a special program (control period) with their rate of growth in these various characteristics while in the special program (experimental period). This has the advantage of avoiding the assumption that Child A is really equal to Child B on all important characteristics since the same child would be used in both control and experimental situations. It does have the disadvantage of assuming that no factor related to maturation or growth will interfere with the results. If, for example, a child has become physically mature during either the control or experimental periods, then this might have an effect on his social acceptance that is not really associated with the special or regular program. If the program evaluator is sufficiently aware of these possible extraneous factors that might influence the results, this "own-control" approach has much to recommend it.

Another and perhaps more defensible method is that of random selection of experimental and control samples. In this method a pool of potential candidates is made. In this pool are placed the children that are eligible for the special program on the desired characteristics. The size of the pool should be at least twice that which will attend the special program. Then the choice of the experimental group is made on the basis of a table of random numbers, the scientific equivalent of picking names out of a hat. In this way you can be reasonably sure that the two groups are essentially equal on important characteristics prior to the beginning of the special training. Therefore any differences which are obtained at the end of the program can be confidently stated as resulting from the special training situation.

Perhaps even more important than the comparison between these two groups is a comparison *within* the special group to determine why the special program worked with some of the children and not with others. This case-study approach is a crucial step in evaluating the program. If you find that only certain kinds of children (introverts, for example) respond to the program it means either that the program should select only introverts or that the directors should try to broaden the program so that it becomes more effective with extroverts also.

Summary

A proper evaluation of programs for gifted children must answer two questions: (1) What would the gifted group in the special program have done if they had not received this special treatment? (2) Have those features which you consider the key elements of the special program been adequately measured? The first question can be answered either by having two groups of children, experimental and control, who are matched on *all* possible pertinent variables, or by making a random selection of experimental and control groups from a pool of approved applicants to the program. The second question can be answered by looking at the avowed purposes of the program (i.e., critical thinking, creativity or development of leadership) to see if the measuring instruments really do measure the particular characteristics that the program is attempting to develop.

The person in charge of an evaluation program should have a thorough knowledge of research design, a good acquaintance with the availability of measuring instruments or techniques to develop such instruments, and a general knowledge of the distinctive characteristics of gifted children.

The time required for testing, analysis of data, and organization of results of evaluation is usually underestimated and must include more personal time than is often considered by educational administrators. Unless the person in charge of the program has the above characteristics, a school system would be well advised to hire sufficient consultant help to see that its evaluation program does not fall into the many booby traps described above.

CALIFORNIA STATE DEPARTMENT OF EDUCATION
Division of Instruction -- Bureau of Secondary Education
Sacramento, California
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SECONDARY PROGRAMS FOR MENTALLY GIFTED MINORS

by Paul D. Plowman, Consultant
in the Education of the Mentally Gifted

A variety of programs exist throughout the nation. Many of these are in a design phase and are being modified in light of experience. Others have been stabilized and are repeated without much modification.

Current practice includes:

1. Mathematics and science seminars held weekly at campuses of universities and colleges. World authorities and other renowned scientists and mathematicians make presentations, take part in discussions, and help supervise individual research projects.

2. Literature enrichment programs in which anthropologists, sociologists, psychologists, and historians review and interpret selected books read by gifted children. Discussion follows.

3. Honors classes in which students develop skills of comprehension, analysis, synthesis, and evaluation. An emphasis on enrichment and experiences in depth.

4. College-level courses conducted at a high school or at a nearby college.

5. "Great-books" tutorial programs involving reading and tutorial assistance in examining the basic ideas of man.

6. Guidance-oriented summer programs designed to help under-achieving gifted students gain new insight into their feelings and potentialities--and designed to foster new appreciation for the value of schooling.

7. "Higher-horizon" type programs for bolstering the culturally deprived child to higher levels of thought, appreciation, recognition, and success.

8. Creative writing, note taking, speed reading, and college-skill courses.

9. Leadership development programs.

10. Computer mathematics and programming of computer at grade levels 7-12.

11. Liberal-arts seminars--involving anthropology, philosophy, political science, economics, literature, drama, art, and music.

12. Accelerated programs in which students are allowed to take courses normally taken by older students or programs in which advanced course content is offered earlier than normal.

13. Programmed learning as a means of independently acquiring needed skills or knowledge. Use of the Mark II Auto Tutor, Carrels and Programmed Material.

14. Senior seminar symposium retreats providing opportunities for reflection and discussion--in an atmosphere free from most daily pressures and outside obligations.

15. A class of students conversing with renowned persons throughout the nation by means of special telephone equipment, by trading recording tapes, or by using ham radio.

16. Science-laboratory and language-laboratory instruction geared to fostering special facility in these areas.

17. Club and special workshop situations set up during or after school.

18. Individual-study program including high-school and college correspondence courses.

19. Programs offering selected gifted students opportunities to make presentations to or to teach younger children.

20. Programs seeking community sponsors for individual gifted children. In some cases, this results in special facilities, laboratories, or other materials and equipment being made available to gifted students.

21. Special film courses viewed in individual learning centers.

22. Cultural film series or exploratory film series covering political, economic, and sociological aspects of our society.

23. Closed circuit and other TV programs especially designed for gifted children.

24. Mobile classrooms or laboratories.

25. Flexible scheduling with sufficient time for intensive application to a matter of special concern.

26. Counseling-instructional programs such as that demonstrated by California Project Talent in the San Juan Unified School District (Carmichael, California).

Differential Programming. In planning programs for gifted students, it is important to realize that different students profit most from different types of programs. Although a school district may start with one type of program--the type most easily assimilated into the regular program--it will want to consider possibilities of comprehensive program development. While it is possible to place particular students in enrichment, tutoring, correspondence, acceleration, college-class, seminar, counseling, and special-class programs, it may be desirable to think about planning composite programs which conceivably could offer a number of elements in the various type programs within one school year. It might also be possible for a student to be in an enrichment program one year, an acceleration program another year, a special counseling program the third year, and a special independent-study program the fourth year.

Flexible Use of Time. In addition to differential programming, it may be advisable to consider possibilities for additional flexibility within current programs. Because gifted children can generally acquire facts rapidly, might it not be possible to compress "fact-gathering" to the first week or two of a three or five week unit? It might be possible to spend the remaining weeks in developing specific intellectual skills such as the application, analysis, synthesis, and evaluation of knowledge. Likewise, sensitivity to problems, fluency of ideas, and adaptive flexibility might be promoted in sensibly planned, creativity-fostering divergent and convergent learning experiences. The models presented by J. P. Guilford[1] and Bloom[2] might well be the basis for program development, lesson planning, and evaluation.

Concepts and Generalizations. Some attempt at distilling the essence of courses seems desirable. In addition to basic facts, curriculum coordinators and consultants will want to identify which concepts and which generalizations need exploration in considerable depth. Factual content chosen must be important facts, significant to gifted children. The concepts selected--such as the concept of "city" or "beauty," must be dealt with in such a way that they are explored from a number of dimensions and result in meaning highly applicable to appraising and dealing with new situations.

To interest the gifted student, it is necessary to go beyond the descriptive and rote-memory approach to knowledge. As indicated, the stress must be on relevance, relationships, and concepts that have application.

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[1] Guilford, J. P. and P. R. Merrifield: "The Structure of Intellect Model: Its Uses and Implications." (Rep. Psychological Laboratory, No. 24), Los Angeles: University of Southern California, 1960.

[2] Bloom, B. S. (ed.) Taxonomy of Educational Objectives - The Classification of Educational Goals. Handbook I: Cognitive Domain, New York: David McKay Company, Inc., 1956.

Individualizing Instruction. Of primary importance are current efforts to individualize instruction. This is possible only when school personnel know their students.

Highly desirable is a case-study approach acquainting teachers with important information about their students for determining needed modifications of the curriculum. In contrast to most cumulative records, a case study has meaningful data, organized and complete. It need not be overly expensive or extensive. Two other considerations are accessibility and use. Increased use can be achieved through inservice education.

The current movement to foster quality education is no ephemeral emphasis. Too much is at stake in the lives of children and in the life of this nation for us to be casual or intermittent in the nurture of talent.

APPENDIX "B"

"Models for Curriculum Development and Evaluation"

These are based on the Benjamin S. Bloom "Taxonomy of Educational Objectives: The Cognitive Domain"; the J. P. Guilford "The Structure of Intellect"; and factors of creativity.

1. "Creativity"
2. "Developing Creative and Cognitive Abilities"
3. "Test Building and Test Banks Through the Use of the Taxonomy of Educational Objectives"
4. "Classification of Creative Activities and Experiences into the Primary Mental Abilities of Human Intellect"

CALIFORNIA STATE DEPARTMENT OF EDUCATION

LOS ANGELES CITY SCHOOL DISTRICTS
Division of Elementary Education
Guidance and Counseling Section

CREATIVITY

In recent years creativity has been of major concern to educators and psychologists. This interest has grown out of the general concern for individual differences as well as that of the expanding concept of giftedness. A number of centers of interest and research related to creativity have become active throughout the nation. Each has a somewhat different approach and point of view which have created some differences as to the exact nature of creativity and what should be done to foster it. However, some general areas of agreement are becoming evident:

1. Definition

Creativity involves the ability to produce new forms--to conjoin elements that are customarily thought of as independent or dissimilar.

Some of the components which make up creativity are:

a. Sensitivity to problems
b. Fluency of ideas and associations
c. Flexibility
d. Originality
e. Redefinition or the ability to rearrange
f. Analysis or the ability to abstract
g. Elaboration
h. Synthesis and closure
i. Coherence of organization
j. Evaluation

Some of the difficulty in defining creativity has been a failure to differentiate between the various levels of creativity which are given by Calvin Taylor as:

Expressive creativity - independent expression in which skills, originality, and quality are unimportant

Productive creativity - production of a product through mastery over some portion of the environment

Inventive creativity - ingenuity in seeing new uses for old parts (no new basic idea involved)

Innovative creativity - a significant alteration in the basic foundations or principles of a theory (needs highly developed abstract conceptualizing skills)

Emergentive creativity - ability to absorb the experiences which are commonly provided and from this produce something new

The process by which the creative process evolves includes preparation, incubation, illumination, and elaboration.

2. Characteristics of Creative Individuals

Some studies list as many as eighty-four characteristics which may be attributed to creative individuals. Those which occur most frequently in studies are:

Curious
Original
Independent
Imaginative
Nonconforming
Perceptive
Flexible
Open
Sensitive
Intuitive
Energetic
Persistent
Fluent
Elaborative
Sense of humor
Complex

The study of creative adults has indicated undesirable personality factors which have probably grown out of the lifelong struggle to voice their creative efforts and seek acceptance for them. It is felt that creative children, if identified, nurtured, and valued, can be helped to adapt those aspects of their personalities which would clash with others.

3. Identification of Creativity

At this time it is not clearly understood whether creativity is a unitary process or made up of a composite of many processes. Objective measures for assessing some of the components of creativity are in the developmental stage--some are being validated at the present time. Generally, these measures explore the individual's ability to think of:

a. Regular or alternate uses for objects
b. Consequences in connection with a new or unusual situation
c. Things that belong in certain classes
d. Sentences when given the beginning letters of words
e. Words of similar meaning to the given word
f. Figures or pictures which may be developed from a mark or line
g. Ways of elaborating upon details or pictures
h. New patterns by removing parts of a given pattern

4. Implications for the School

It is thought that creativity cannot be developed in individuals unless they already possess those traits which constitute creativity. It is felt that the attitudes should be more one of "making it possible for creativity to emerge." Many researchers feel the environment should be "responsive" rather than just "permissive." E. Paul Torrance and others who have succeeded in helping children to be more creative in their thinking and writing have suggested the following as factors in a responsive environment:

a. Include a variety of learning tasks in the day's activities as some children prefer to learn by discovery rather than by authority
b. Bring more stimuli into the learning experiences
c. Ask questions which elicit unique or original responses
d. Accept and value unique responses when initiated by children
e. Develop a progressive warm-up for creative activities from the simple to the complex.

f. Break the set - make it possible for new ideas to be developed
g. Avoid the giving of examples when seeking creative efforts
h. Provide opportunities for imaginative activities
i. Provide time for the full development of an idea - some pupils are slow starters - to encompass all of the possibilities and to toy with uncommon associations or consequences requires some amount of time and some independent or isolated thinking

The key to the successful outcome of helping each child to develop to his full potential is a creative teacher working in her own individual fashion developing a broad base of knowledge, refining the basic skills, and creating a climate in which satisfying interpersonal relationships and the freedom to explore and learn in different ways is afforded each child.

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CALIFORNIA STATE DEPARTMENT OF EDUCATION
Division of Instruction -- Bureau of Secondary Education
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DEVELOPING CREATIVE AND COGNITIVE ABILITIES

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In Bloom's "Taxonomy of Educational Objectives" are listed the following creative and cognitive abilities that should be developed with all children and particularly with the mentally capable students.

Translation
Interpretation
Extrapolation
Application
Analysis
Synthesis
Evaluation

Below is a description of each ability with suggested activities to develop each one and examples given that may be used with students. Of course you will think of better examples to fit your situation.

TRANSLATION

The ability to put a communication into another language, another form of communication is translation. An abstract idea may need to be transformed to concrete or everyday terms to be useful in further thinking about it.

Suggested Activities:

1. State a problem in your own words.
2. State a lengthy communication in a more brief form.
3. Clarify a principle by giving an illustration or sample.
4. State findings as expressed in tables and graphs, or to put information into a table or graph form. (Verbal to symbolic.)
5. Read a musical score and play it as it is written.
6. Read architectural plans and state in verbal form.
7. Translate foreign terms or language into English and vice versa.
8. To give the author's meaning in the use of metaphors, similes, symbolism, irony, satire, exaggeration, proverbs, etc., and to use such expressions in one's own written or oral communication.
9. Tell the meaning of words, sentences or paragraphs as they are written.
10. Make a mathematical sentence from a written problem.

Examples:

1. Substitute synonyms for the underlined words without changing the meaning:
   "I pick up my sisal bag. The sand slips softly under my feet. The time for reflection is almost over."
2. An isotherm is a line on a map connecting places of equal temperature. What does this mean?

3. A chinese speaks about "losing face."
4. "A word to the wise."
5. It is easy to be brave from a safe distance.
6. "Tienes una cara bonita."
7. "And like seeds dreaming beneath the snow your heart dreams of spring."

INTERPRETATION

It is a reordering of ideas into a new configuration in the mind of the individual. It goes beyond translation to comprehend the relationships between its parts, to reorder or rearrange and relate to one's own fund of experiences and ideas.

Suggested activities:

1. Give one's own meaning to a story, passage, or communication, orally or in writing.
2. Draw inferences concerning statements or ideas.
3. Make generalizations concerning experience and to give meaning to a stated generalization according to one's own understanding or creative outlook.
4. Discover new principles through experience.
5. Gather data and tell its meaning in a report.
6. Prove a statement or disprove by presenting evidence.
7. Show as many ways of solving a problem as possible.
8. Find as many synonyms as possible for certain terms.
9. Ideation.

Examples:

1. Lofoten and Verkhoyansk are in the same latitude. Explain the differences in climate.
2. Portray a character in a story or a play as you perceive him.
3. Write a dialogue as if Johnny Appleseed were talking to your grandfather.
4. Write a parody or "take-off" from a song, poem, or story.
5. Stage a quiz program of "What's My Line?" based on folklore, gods, goddesses, or historical characters.
6. Make a positive statement out of the quote "If you bake bread with indifference, you bake a bitter bread that feeds but half man's hunger."
7. Discover the vastness of space by using various scales to locate models of the planets in the solar system. Use 1/4 in. to 1 million miles, 1/2 in. to 1 million miles and 1 in. to 1 million miles. Where would you take us to draw maps of these scales and to place the models in their relative positions?
8. Write an essay expanding a quotation, a cartoon, a graph, or a numerical table.
9. List all the ways you would change an automobile to make it park more easily.
10. Give two opposite words such as love and hate. Ask the student to draw or describe what comes to his mind in connection with each word.
11. What are some unusual uses for a small matchbox or a brick?

EXTRAPOLATION

One must be able to translate, interpret, and go beyond to trends or tendencies beyond the given data: If "this" is true, what will happen now?

Suggest activities:

1. Draw conclusions concerning information given.
2. Hypothesize concerning experimentation. List all the possible outcomes.
3. Make estimates or predictions in relation to given data.
4. Draw inferences with respect to implications, consequences, corollaries, and effects.
5. Interpolate by inserting new, foreign material or material that would come in logical sequence, or where gaps appear.

Examples:

1. The communists believe that the individual exists only to serve the state; a useful cog in a machine; a cog easily replaced if it becomes faulty. How would justice be advanced by anyone who accepted this theory?
2. You are a member of a U.N. Conference to decide limits of territorial waters, what factors would you want to consider? What difference would it make if the limits are 3, 30, or 300 miles?
3. If you were made principal of the school what changes would you make?
4. If you were a fish, how would you eat, sleep, travel, communicate?
5. If the Declaration of Independence hadn't been signed, what would our country be like today? What would the world be like?
6. Fill the blanks: ____2-3/4, 4-1/8____6-7/8, 8-1/4, ____.
7. What would happen if a group of Martians landed in your town this morning?

APPLICATION

Use old principles to solve new problems. Students need practice in restructuring and classifying situations so the correct abstraction applies. Possession of knowledge and the ability to apply it are not always synonymous. Students must be able to generalize or state principles or must have had previous experience with known generalizations and principles.

Suggested activities:

1. Select one solution to a problem and give reasons for selection.
2. Find several good solutions to a problem.
3. Be responsible for applying the proper attitude toward work, self-confidence, or self-control.

Examples:

1. A desert is usually found to lie east of a mountain range that faces toward an ocean. Why is this not true in the Amazon Basin east of the Andes?
2. Knowing what you do about the Dutch, how would you propose to reclaim San Francisco Bay?
3. Predict a probable effect of a change in a factor on a biological situation previously at equilibrium.

ANALYSIS

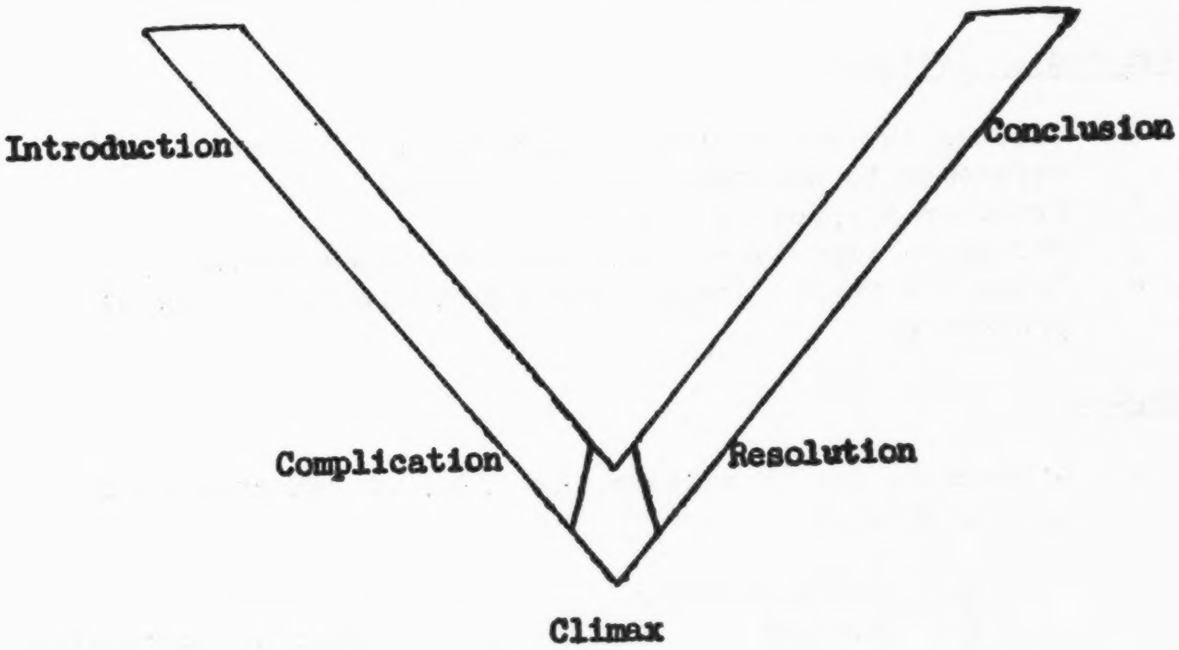
This ability emphasizes the break down of material into constituent parts and detection of the relationships of the parts and the way they are organized. It aids in fuller comprehension and is a prelude to evaluation. It is an objective of science, social science, philosophy, and the arts.

Suggested activities:

1. Listing problems relating to a project.
2. Listing steps in preparation of a product.
3. Listing elements of composition.
4. Listing unstated assumptions which seem to be involved.
5. Comprehending and pointing out interrelationships among ideas in a passage.
6. Distinguishing dominant from subordinate ideas or themes in poetry, music, etc.
7. Recognizing form and pattern in artistic works as a means of understanding their meaning.
8. Recognizing general techniques used in persuasion, in advertising, propaganda, etc.
9. Finding evidence of author's techniques and purposes.

Examples:

1. The resumption of nuclear testing in the atmosphere caused many problems. Some of the most important are --- ?
2. Make an outline showing all the ways Indian tribes of the plains were similar (or different).
3. Make a diagram and fill in the parts with either drawings or descriptions of the parts of a story or a book.



SYNTHESIS

It is the ability to put together, rearranging, production of a new communication, arranging and combining pieces, parts, elements, etc. into a new whole.

Suggested activities:

1. Writing a report, essay, or story using an excellent organization of ideas and statements.
2. Make a collage.
3. Write a poem (word or phrase poem).
4. Plan a set of operations.
5. Propose ways of testing hypotheses.
6. Plan a program, a T.V. show or panel discussion.
7. Put ideas and facts together to discover or prove an idea, generalization, or a principle.

Examples:

1. In an essay, support or disagree with the following statement: "The U. S. should invade Cuba for the purpose of overthrowing Castro."
2. Plan and work out a legendary map of the United States showing the areas where such characters as Paul Bunyan were supposed to have lived and roamed.
3. Make a creative stitchery picture using material to represent different objects, people, etc.

EVALUATION

Give judgment concerning ideas, products, events, etc.

Suggested activities:

1. Discuss the activities of planning and execution with reference to how they can be improved.
2. Prove or disprove a statement.
3. Decide on importance, relevance or irrelevancies.
4. Recognize needed changes through adequate testing of procedures.

Examples:

1. Arrange a list of problems in order of importance for the Far East:

    (a) Overpopulation
    (b) poverty
    (c) language barriers
    (d) illiteracy
    (e) communist aggression

2. Imagine after listening to Bertram Russell on the radio, you begin to argue - one in favor, one against. Write a dialogue using major hypothesis and opinion of both viewpoints. Make clear what your viewpoint is.
3. Debate on a topic of U. S. or World Affairs.

CALIFORNIA STATE DEPARTMENT OF EDUCATION
Division of Instruction -- Bureau of Secondary Education
Sacramento, California
April, 1964

Test Building And Test Banks Through The Use of the Taxonomy Of Educational Objectives*

by Leon M. Lessinger

There exists today a powerful tool to upgrade a much neglected art -- classroom test construction. This paper describes the tool and some preliminary by-products of its use in a California school district.

The Taxonomy of Educational Objectives[1] is a device which provides a larger view of the nature of the educational task in learning subject matter by establishing a comprehensive descriptive system for communicating this view. Once understood and put into practice, teachers find new insights into test building and a surprising power to generate questions, in an orderly manner, around parts of the subject they wish to sample.

The Dewey Decimal System of classifying books and the system of describing biological phenomena are well known examples of taxonomies. One readily locates or files a book, knowing the Dewey Decimal System, one expertly describes a biological specimen in terms of its phylum, class, order, family, genus, species, and variety, using the biological taxonomy. Indeed, the very heart of science is communicable description!

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[1] Bloom, Benjamin S., Editor, Taxonomy of Educational Objectives, New York, Longmans, Green and Co., 1956. 207pp.

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*Lessinger, Leon M. "Test Building and Test Banks Through The Use of The Taxonomy of Educational Objectives," California Journal of Educational Research, XIV, No. 5 (November 1963), p. 195-201. Permission has been granted by the author and the editor of the Journal to reproduce this article.

Leon Lessinger is assistant superintendent of Grossmont School District, obtained his Ed.D. from U.C.L.A. He holds an M. A. in clinical psychology and his professional experience includes, beside teaching elementary and high school, three years as chief research consultant for the California State Department of Education

The Taxonomy of Educational Objectives attempts to classify all the educational objectives which deal with the recall or recognition of knowledge and the development of intellectual skills and abilities, i.e., the cognitive domain. This domain is classified in such a way that each successive category is built upon and dependent upon those which are its predecessors. Each category, in turn, is ordered from the specific to the general, from the concrete to the abstract. Thus, the Taxonomy is set up in a hierarchical arrangement, although it is readily conceded that there is much overlap and shading between categories.

Virtually all that we commonly mean when we speak of the knowledge in our subject fields may be described in terms of the specific items of information, the terminology, the facts, the ways and means of dealing with facts and information, the conventions used in treating subject prenomena, the criteria, the methodology, the principles, generalizations, and theories of the respective fields. This knowledge we call basic, the substance of our disciplines, and we attempt to have pupils gain this knowledge through a variety of techniques and materials. Without knowledge, there can be no learning of our subjects; hence, it is not surprising that knowledge forms the first category, the base of the pyramid, the prime element in the Taxonomy. The knowledge gained is supposed to be remembered. Teachers test for the retention of this knowledge by asking questions (either objective or essay) which require a pupil to recall or recognize material previously covered in the course.

The major contribution of the Taxonomy lies not so much in classifying the area of knowledge which is well known to all teachers; rather, the contribution comes about through the delineation of the intellectual skills and abilities by which one is supposed to understand, apply, analyze, synthesize, and evaluate that which is learned.

For example, a pupil may learn that ontogeny recapitulates phylogeny. This is clearly at level one in the Taxonomy--knowledge of a principle or generalization. The teacher may test this knowledge by constructing a true/false item reading, "Ontogeny recapitulates phylogeny." The pupil may answer "true" and be marked correct, but he may have no idea at all what is meant by the principle, that is, he may not comprehend what the principle stands for, describes, or "means." The second element or major category of the Taxonomy, therefore, classifies an area of the cognitive domain called comprehension. Most teachers would readily agree that knowledge without comprehension is quite ineffective.

Three intellectual skills comprise the category "comprehension": translation, interpretation, and extrapolation. Putting this classification into operation, the teacher may ask the pupil to state in his own words, what is meant by, "Ontogeny recapitulates phylogeny." (translation); or give a view of the phenomena which the principle orders (interpretation); or indicate the implications or consequences of the principle (extrapolation). Most biology teachers would feel that their pupils really knew that ontogeny recapitulates phylogeny if, in addition to merely recognizing or recalling the principle, they could demonstrate that they comprehended it.

The third category of the Taxonomy -- application -- is an important extension of the notion of comprehension. Here one describes the use of abstractions, rules, formulas, principles, and generalizations to solve new problems, to understand novel situations. All that is necessary for the solution or comprehension (Level 1 and 2 of the Taxonomy) is incorporated by the pupil; here he is asked to apply what he knows to a situation he has not formally encountered in the classroom. Thus, the pupil may know the quadratic formula (Level 1); he may be able to state the formula in his own words (translation); he may be asked to solve a quadratic equation generated by the path of a bomb (application). Memory is a basic ingredient to application but it necessitates still "higher mental functioning" for success in putting to use that which one has learned.

The fourth category of the Taxonomy describes those intellectual skills required to dissect or break apart a given segment of knowledge into its elements or constituent parts. This is the familiar process of analysis. The pupil is called on to fulfill this objective by indicating how knowledge (Level 1) is organized, i.e., the relationship between the ideas it incorporates, or the way it manages to communicate its effects, or the basis of its development. Test questions involving analysis assume knowledge (Level 1), comprehension (Level 2), and application (Level 3). Category 4 -- analysis -- is a blending of all three lower levels in an attempt to penetrate the essence or structure of phenomena.

The fifth category -- synthesis -- logically follows the four predecessors. Having analyzed, one is now called on to put the elements and parts together to form an arrangement or pattern not clearly evident before. The well designed term paper can be a good example of Category 5 -- synthesis. In fact, the authors of the Taxonomy have this clearly in mind by their description of one of the sub-parts of Category 5 -- Production of a Unique Communication.

The sixth and final major category of the Taxonomy forms the apex of the cognitive domain pyramid. It orders the highest, most prized learning in a free society -- judgment. Labeled "evaluation," level six of the Taxonomy describes those educational objectives involving critical thinking and judgment, rendered on the basis of internal and external criteria.

Pupils able to render well thought out evaluations may be said to really know or understand that which they have been taught or have discovered.

Evaluation (Level 6) involves all the previous five. It is a prelude to wisdom -- the most complex and difficult intellectual ability of all.

The Taxonomy is outlined below. A complete description, discussion, and set of examples of educational objectives and sample test items is contained in the handbook upon which this entire discussion is based.

- 1.00 Knowledge
  - 1.10 Knowledge of Specifics
    - 1.11 Knowledge of Terminology
    - 1.12 Knowledge of Specific Facts
  - 1.20 Knowledge of Ways and Means of Dealing with Specifics
    - 1.21 Knowledge of Conventions
    - 1.22 Knowledge of Trends and Sequences
    - 1.23 Knowledge of Classifications and Categories
    - 1.24 Knowledge of Criteria
    - 1.25 Knowledge of Methodology
  - 1.30 Knowledge of the Universals and Abstractions in a Field
    - 1.31 Knowledge of Principles and Generalizations
    - 1.32 Knowledge of Theories and Structures

- 2.00 Comprehension
  - 2.10 Translation
  - 2.20 Interpretation
  - 2.30 Extrapolation

- 3.00 Application

- 4.00 Analysis
  - 4.10 Analysis of Elements
  - 4.20 Analyses of Relationships
  - 4.30 Analysis of Organizational Principles

- 5.00 Synthesis
  - 5.10 Producation of a Unique Communication
  - 5.20 Production of a Plan, or Proposed Set of Operations
  - 5.30 Derivation of a Set of Abstract Relations

- 6.00 Evaluation
  - 6.10 Judgments in Terms of Internal Evidence
  - 6.20 Judgments in Terms of External Criteria

The Taxonomy is not only a product of creative thinking. Thoroughly understood and mastered, it can provide a tool for a creative approach to test construction. To be sure, teachers have known and utilized all the elements which comprise the Taxonomy; its designation as creative derives from the fact that it is a careful organization of previously unrelated things -- as apt a definition of creativity as is currently available.[2]

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[2] Smith, Paul, "Definition of the Conference," Creativity, ed. Paul Smith (New York: Hastings House, 1959), pp. 16-18

In the Grossmont Union High School District, we have been guiding teachers in the use of the Taxonomy. Teachers were helped to understand and utilize the Taxonomy through the development of a rationale integrating the taxonomy with the six important instructional elements operating in the school environment: teachers, pupils, methods, materials, times and places. Figure 1: An analysis of Factors Involved in the Learning Process is a summary of the rationale. Teachers met for ten two hour meetings during the school year to construct and revise test questions, explore the implementation of the questions in their daily assignments and discuss the total impact of the "taxonomic approach" on the instructional program.

One immediate by-product, in addition to the general improvement of classroom testing, has been the collection of test items into district test banks. One test bank, in the field of geography, already contains 566 carefully prepared items. These have been issued in a "bulletin[3] with specified procedures to make the deposits grow." District geography tests will be drawn from this bank. Teachers are currently at work developing banks of questions in English, social studies, foreign languages, and mathematics. Additional subject field banks are contemplated.

Nor is test building and test bank development the sole use of the Taxonomy. When a wealth of experience with it has taken place, and knowledge of its principles and use has become widespread throughout the district, we shall be able to delve into such matters as delineating educational goals, arriving at consensus on time allotments to realize objectives, and more carefully specify standards of mastery of courses.*

The Taxonomy represents an important tool in the professionalization of the teaching field. One can only hope for its continued widespread dissemination and use.

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[3] Logsdon, John and Tarr, Donald, World Geography Test Bank, Grossmont Union High School District, Grossmont, California. 1962. 81 pp.

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*Mr. John Logsdon, one of the participating teachers, has analyzed all of the final examination items on all the social studies tests given in the district in 1961-62. 989 of the items could be classified at Level 1 -- knowledge. A followup study to detect the influence of the "taxonomic approach" is planned on the tests given in 1962-63.

FIGURE 1: An Analysis of Factors Involved in the Learning Process

	TYPES OF LEARNING	WHAT STUDENTS DO		WHAT TEACHERS DO		APPROPRIATE ORGANIZATION AND LOCATION			
		Activity	Tangible Outcomes	Activity	Tangible Outcomes Objective tests	Methods Used by Teachers & Students	Materials used by Teachers & Students	Times used by Teachers & Students	Places Used by Teachers & Students
	MASTERY OF SUBJECT MATTER (Knowledge)	Responds Absorbs Remembers Rehearses Covers Recognizes	Objective test results Completes program learning sequences	Directs Tells Leads Shows Delineates Enlarges Examines	Programmed materials	Lecture Drill Recitation Objective test Homework	Textbooks Programmed materials	Formal Regularized	Large group Classroom
CRITICAL AND CREATIVE THINKING	COMPREHENSION	Explains Demonstrates Translates Extends Interprets	Short essays Objective test results	Demonstrates Listens Reflects Questions Compares Contrasts Examines	Objective tests Essay tests	Objective test Essay test Recitation Socratic dialogue	Audio-visual materials Television Natural phenomena	Formal Regular-ized	Classroom Typical group
	APPLICATION	Solves novel problems Demonstrates use of knowledge Constructs	Problem solving tests Constructs equipment	Shows Facilitates Observes Criticizes		Laboratory Shop Homemaking center Stage Project Quiz Contests Field visit	Building materials Shop equipment Lab equipment	Informal Regularized	Laboratory Shop Field Station Small group
	ANALYSIS	Discusses Uncovers Details Lists Dissects	Experimental write-ups Précis Outlines	Probes Guides Observes Acts as a resource		Seminar Discussion Group Critique Independent study Précis writing	Books (non texts)	Informal Irregular	Cubicle Laboratory Seminar room Home
	SYNTHESIS	Discusses Generalizes Relates Compares Contrasts Abstracts	Term papers Blueprints Sets of plans Critiques Essays Speeches Projects	Reflects Extends Analyzes Evaluates	Reading lists Specialized questions	Term paper Essay Planning project Consultation Seminar Independent study	Collections of books	Formal Irregular	Library Home Seminar room Concert hall Museum Laboratory Small group
	EVIDENCES OF EFFECTIVE LEARNING BY EVALUATING THE GROWTH IN QUALITY OF STUDENT PERFORMANCE ACCORDING TO THE (APTITUDE, POTENTIAL ABILITY,) OF EACH INDIVIDUAL.	Commitment Judges Disputes	Performances (athletic, musical, artistic)	Acceptance Lays bare the criteria Harmonizes	Debates "Global" problems Competitive Essays Project constructions—shop Speech tournaments Structural ideas (Bruner)	Seminar Panel Outside lecturers Debates	Essays Journals	Informal Irregular	Seminar room "Coffee shop" Small group

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CALIFORNIA STATE DEPARTMENT OF EDUCATION
Division of Instruction
Bureau of Secondary Education
Sacramento 14, California

August 15, 1962

Classification of Creative Activities and Experiences into the Primary Mental Abilities of Human Intellect

Prepared by Frank Williams
San Jose State College

*1. Cognitive Ability
discovery, recognition, comprehension, awareness, understanding

Activities that: generate curiosity
provide rediscovery
require comprehension
cause awareness

11. Memory
storage and retention of knowledge--what has been cognized
ability to recall information when needed

*111. Convergent Thinking
redefinition, transformations, recognized best or conventional solution, improvisations

Activities that: transform, redefine, improvise
ability to pick best of choice of several alternatives

*1V. Divergent Thinking
scanning stored information, searching for many possible solutions, thinking in different directions, ability to go off in new and untested directions, deferred judgment

A. Fluency: quantitative-emphasize rate within classes
   1. Ideational fluency-generation of a quantity of IDEAS, words, titles, responses, phrases, sentences, uses, consequences, productions (drawings, pictures, designs, or other sense stimuli)

2. Associational fluency-completion of relationships-
   production of relations
   generation of synonyms, analogies, similarities,
   problems of likeness

3. Expressional fluency-new ideas to fit a system or structure
   organization into systems or logical theories
   sentences, verbal ideas, question responses

B. Flexibility: quantitative-variety
1. Spontaneous flexibility-variance of kinds of responses into
   classes
   number of considerations of properties, attributes,
   or inherent characteristics of problem or product
   number of shifts of category responses, versatility

2. Adaptive flexibility-number of detours, freedom to make
   changes, number of approaches or
   strategies used in seeking solutions
   number of changes of interpretations
   changes in direction of thinking

C. Originality: qualitative-unusual, remote, clever, uncommon,
infrequent, remote associations

verbal, figural, symbolic transformations as uncommon
objective unusualness-statistically infrequent-
subjective choice as clever, far-fetched, novel,
different from standard or norm

D. Elaboration: production of detailed steps, variety of implications
and consequences
quantitative measure - number of

*V. Evaluative Ability
goodness, suitability, adequacy, determination of fit, ability
to determine if produced solution fits the problem (search model)

Activities that: produce conceptual foresight
raise pertinent questions
cause sensitiveness to problems
require curiosity
noticing defects/or changes
seek improvements to things, social
customs, institutions, behavior
noting defects in objects or ideas
evaluating implications
observations of imperfections or
inadequacies
constructive discontent
flexibility of critical-mindedness
purposeful judgment

* Those abilities that the creative individual uses

Factors for Evaluating or Scoring Creative Exercises and Activities

1. Fluency: A score obtained simply by counting the number of all responses given excluding those which are irrelevant or repeated. Sheer quantity counts.

2. Flexibility: A score based upon how response ideas develop and change in terms of:

    a. Manipulation - change color, combination, substitution, subtraction, position
    b. Alteration - adaption, magnification, minification material change, rearrangement, reversal, shape change, sense appeal
    c. Number of basic principles utilized
    d. Number of inherent attributes of product
    e. Number of classes or systems used-approaches

3. Originality: Infrequent responses, unusual or remote responses

4. Elaboration: Response must tell what for (why), how, or what with.
   Number of details given
   Variety of implications-complexity

5. Inventilevel: adopted from U.S. Patent Office criteria as:

    a. Usefulness
    b. Challenging and thought provoking-generate new ideas
    c. Surprisingness, does the idea produce astonishment wonder, or surprise - real novelty

6. Productivity: Number of complete responses attempted
   Number of questions or activities completed divided by number possible in exercise

7. Penetration: Number of closures made to incomplete figures, converging to a single answer where an open-ended problem demands many possible answers

EXAMPLE

- -

CREATIVE ACTIVITIES IN LANGUAGE ARTS

Creative activity: Have pupils think up titles or captions for a picture

Ability Developed: Divergent Thinking
- Ideational Fluency
- Adaptive Flexibility
- Originality

How To: Class activity-titles expressed orally
Individual written exercise

Materials:
1. Clever cover picture from Saturday Evening Post
2. Unusual greeting card or cartoon shown by opague projector
3. Double-page picture from Life or National Geographic magazines

Scored For: Idea Fluency-number of common titles
Adaptive Flexibility-number of different interpretations of picture
Originality-number of uncommon titles by infrequent occurance in the class or rated for cleverness by the teacher or student panel

- -

Creative Activity: Write a story about a picture

Ability Developed: Cognitive Ability
Divergent Thinking
- Originality
- Elaboration

How To: Individual written paper
Individual blackboard activity

Materials: use same picture from sources above

Scored For: Cognition-awareness of how choice of words can give verbal feeling
-awareness of how new and different words can make story more interesting
-choosing the best way for telling what the picture expresses

Originality-number of unusual interpretations of picture
-humorous or novel twist of story about picture

Elaboration-number of details
-variety of implications

EXAMPLE

- -

CREATIVE ACTIVITIES IN LANGUAGE ARTS

Creative Activity: To write a short story by using a series of twenty unrelated words in the order in which they are given.

Ability Developed: Divergent Thinking
Expressional Fluency
Originality
Elaboration

How To: Individual written exercise
Class "Round-Robin" story
group blackboard exercise

Materials: Writing materials
List of words (see figure below)

Scored For: Expressional fluency-number of new ideas given to each word to fit into a logical story structure
-Free and fluent written expression; spelling, punctuation, and grammar are not as important
Originality-quality of clever associations given for each word as judged by the teacher or a student panel
-number of verbal semantic transformations made for each word
Elaboration-variety of implications that the story makes

CREATIVE ACTIVITY THROUGH LANGUAGE ARTS

Creative Activity:	Lesson on vivid verbs: Have pupils think up as many words as they can that indicate the manner in which a human moves from one point to another.
Abilities Developed:	Cognition Divergent Thinking fluency originality Evaluation
How To:	Words expressed orally; written on board Pairs of pupils to work on alphabetical sections of the dictionary Ask each pupil to observe five people within a week and describe their movement five ways Show movie or slides of people moving about; i.e., athletic event, vacation activities, circus, etc.
Materials:	Writing materials Movies, slides Magazines, books
Scored For:	Cognition awareness of specific similarities and differences of movements awareness of verbal tools that can express these similarities and differences Divergent Thinking fluency - number of verbs for each situation Originality choice of verbs away from cliche and over-used slang coined verbs Evaluation suitability of verbs to express situation

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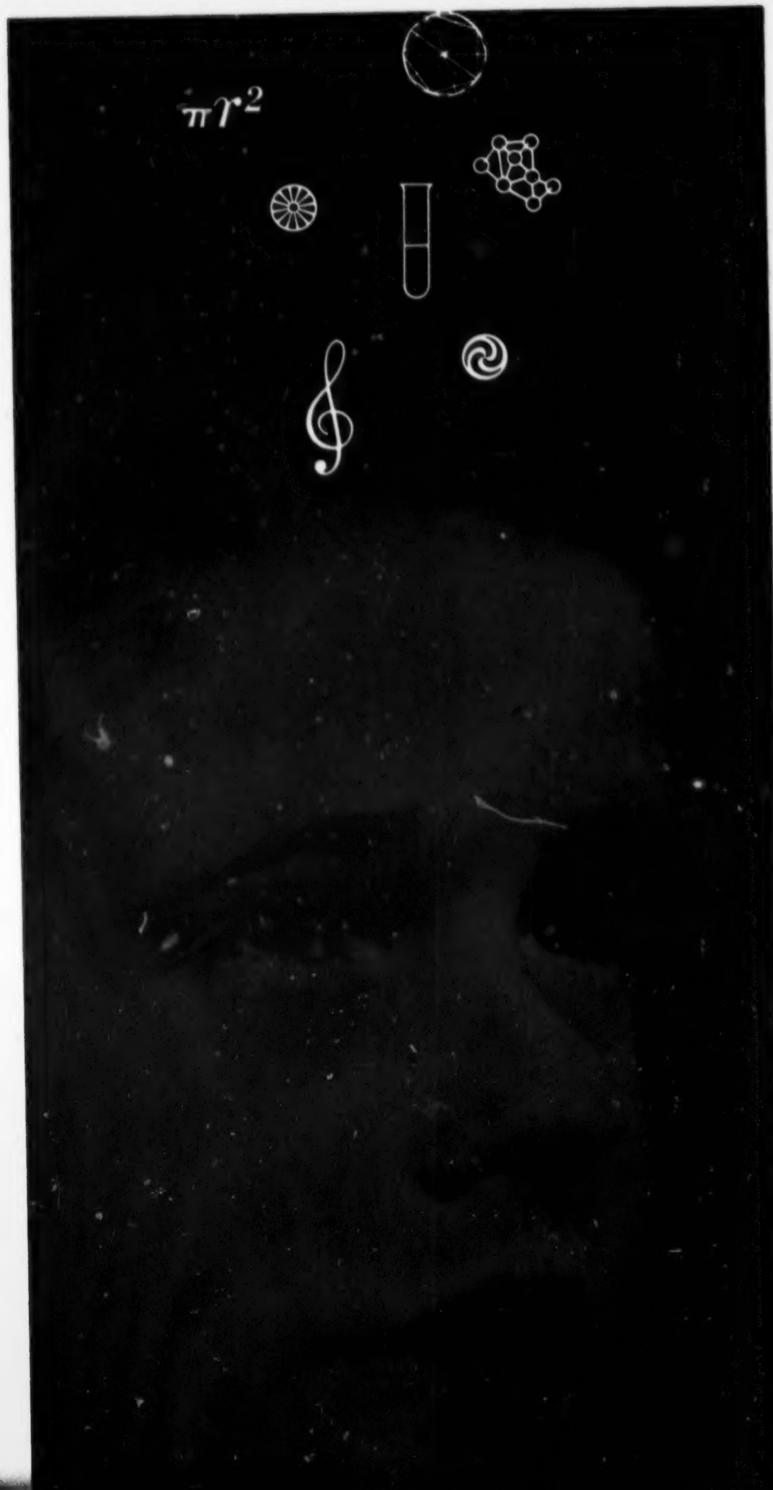

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"Enrichment Programs for Intellectually Gifted Students" is a series of fourteen filmed lessons based on the course outlines in the publication "Enrichment Programs for Intellectually Gifted Students," and depicts actual classroom situations. A comprehensive film guide for study and evaluation is included with each film. Each film is 28 minutes 30 seconds in length.

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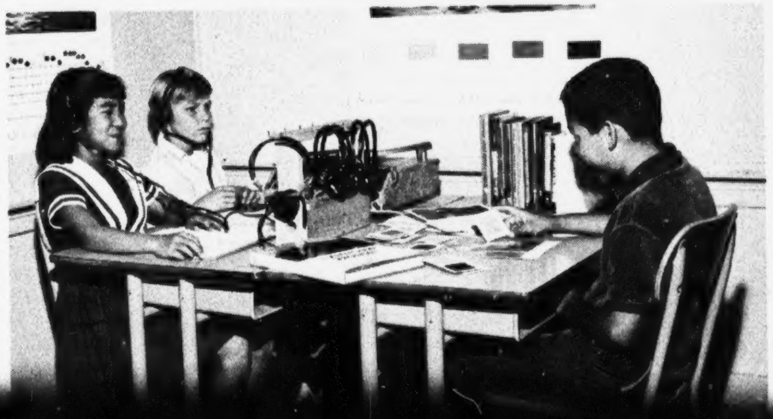

FILM TITLES

DEVELOPMENT OF SCIENTIFIC DISCOVERY, METHODOLOGY AND INVESTIGATION THROUGH A STUDY OF GRAPHIC REPRESENTATION OF STATISTICAL INFORMATION.

(Application of Benjamin Bloom's and others' Taxonomy of Educational Objectives: Cognitive Domain to the study of mathematics.)

☐ 1. Knowledge
☐ 2. Comprehension
☐ 3. Application
☐ 4. Analysis
☐ 5. Synthesis
☐ 6. Evaluation

DEVELOPMENT OF CREATIVE EXPRESSION THROUGH A STUDY OF THE LITERARY ELEMENT OF CHARACTERIZATION.

(Application of J. P. Guilford's "Structure of Intellect" to the development of creative expression.)

☐ 7. Cognition
☐ 8. Memory
☐ 9. Convergent Thinking
☐ 10. Divergent Thinking
☐ 11. Evaluation

DEVELOPMENT OF CRITICAL APPRECIATION THROUGH A STUDY OF THE FUNDAMENTAL FORMS OF MUSIC.

(Application of Jerome Bruner's description of the stages of learning in The Process of Education to the development of critical appreciation.)

☐ 12. Acquisition
☐ 13. Transformation
☐ 14. Evaluation

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Note: The entire series is also available on Videotape for use on television. For full particulars, contact Mel Sawelson, General Manager, Acme Film & Videotape Laboratories, 1161 North Highland Ave., Hollywood, California 90028 (213) 464-7471.

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APPENDIX VI

WORKING DRAFT

CALIFORNIA STATE DEPARTMENT OF EDUCATION
Division of Instruction
Sacramento 14, California

A TRI-DIMENSIONAL APPROACH TO LEARNING
--Possibilities for Maximum Reinforcement in Social Science, English, and Guidance

by

Paul D. Plowman

Consultant in the Education of the Mentally Gifted
Bureau of Secondary Education

October 1, 1963

MAX RAFFERTY
Superintendent of Public Instruction
and Director of Education

RICHARD M. CLOWES
Associate Superintendent of
Public Instruction and
Chief, Division of Instruction

A Tri-Dimensional Approach to Learning --Possibilities for Maximum Reinforcement in Social Science, English, and Guidance

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Paul D. Plowman
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Social sciences and English can be taught in such a way as to advance basic concepts, develop skills of communication, and improve the quality of human beings. These subject areas should be appreciated as integrated fields of learning. They should also be appreciated in the broader context of human knowledge.

A tri-dimensional approach, suggested here, may be one way of reducing fragmentation of content and of giving added meaning to the social science program. Maximum reinforcement of skills, knowledge, and understandings should foster personal and societal goals for human development.

Two Approaches

Two approaches for fostering reinforcement are suggested on the following pages. The first approach involves listing English activities which could be used to advance understandings of the unit, "The Effect of the Industrial Revolution on the Expansion of the United States." The second approach involves the three dimensions: social science, English, and guidance. In this case, an effort was made to devise activities which would advance important understanding of the unit, "Our Democratic Heritage," while at the same time developing communication skills and assisting pupils in meeting certain personal-societal needs, certain developmental tasks of adolescents. Although the second approach is the more difficult one, it should be the more meaningful approach. It does require a rather high level of sophistication and competence on the part of teachers.

Illustrating the First Approach

On three pages, language-arts activities for the social science unit, "The Effect of the Industrial Revolution on the Expansion of the United States," have been listed under specific communication skills. No attempt was made to provide assistance in the area of personal-social needs.

Illustrating the Second Approach

Two charts illustrate the second approach. They show how social science and English curriculums may be mutually reinforcing. The second chart is particularly helpful in visualizing relationships through three dimensions. Integration within (appreciation for) each subject field can be thought of as the sphere made by each core--social science (red); English (blue). Fulfilling the guidance function can be thought of in terms of the radiating arcs, concentric circles, or layers around the inner cores.

The charts on the following pages were prepared by the writer while attending Stanford University.* The purpose of these charts is to assist eighth-grade and ninth-grade teachers in achieving maximum reinforcement in social science, English, and guidance. The concluding page of this report contains a form which might be used in evaluating English skills within each social-science unit.

A Final Word

Competent individuals and a strong democracy are goals common to social science, English and guidance. Efficiency in working toward these goals is both the primary justification for and the challenge of a tri-dimensional approach to learning.

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*1953

SUGGESTED CONTENT OUTLINE *

Eighth Grade:

Social Science

U. S. History: Geography and Civics

The Effect of the Industrial Revolution on the Expansion of the United States

Geography of the United States:
  Location and Size
  Influence of Geography on the Growth of the United States
  Climate: Natural Resources
  Population and Growth Trends
Beginnings of the Industrial Revolution
  Invention of Machines and Harnessing of Power
  Changes in Transportation and Communication

Major inventions and their effects on agriculture and industry
Factories and the growth of cities
Location of principal manufacturing centers
Old World sources
Settlement in various regions and parts of various cities
Changes in the way of life in the United States beginning after the Civil War and continuing to the present

1. List English skills and social science content.

2. Plan social science experiences which re-enforce English skills.

3. Keep a check list and anecdotal record of English activities (indicating levels of competence, strengths and weaknesses) for each unit of work.

4. Develop subsequent social science experience in part on the basis of English (communication) need.

5. Keep effective communication, democratic values, and personal integretion as major emphasis in English and in the social sciences.

English

Oral and Written Expression

Speeches and Oral Reports

Dramatizations

Creative Writing

Listening

Reading

Letter Writing

Committee Procedure

Story Telling

Notes and Outlines

Conversations

Discussion

Asking and Answering Questions

Using the Telephone

Oral Announcements, Explanations, and Directions

Keeping Records

Filling in Blanks and Forms

Written Announcements, Advertisements

Speaking and Writing Correctly

Speech Skills
Vocabulary
Sentence Sense
Correct Usage
Capitalization
Punctuation

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* Modified Suggestions - San Mateo County Course of Study - 1953

Re-enforcement - English and the Social Sciences

English activities for the social-science unit, "The Effect of the Industrial Revolution on the Expansion of the United States."

Speeches and Oral Reports

Influence of geography upon the growth of the major regions of the United States.
Changes in family life between the Civil War and the present.
Changes in family life during the depression of the thirties and during World War II.

Dramatizations, Choral Reading
This is My Country - choral
Working conditions in early New England factories.
Erie Canal - choral; *I've Been Working on the Railroad.*
Edison at work
Two skits -- labor-management bargaining 1900 and 1963.

Creative Writing
Original story --steamboat race; race between horses and a train.
Poetry--about the growth of our nation.
Interpretation of pictures shown by the teacher.
What is the most important American invention? Why? -- a theme.

Listening
Paul Bunyan stories and other folklore
A Man without a Country; *Folk Songs of the New World*; *De Glendy Burke*.
The sounds around us made by factories, representative sound of the city government, appliances, machines, etc. The effect of noise on one's work. Noise where we live. Sounds of the day. Sounds of the night.
T .V. and radio--e.g. "I Can Hear it Now."

Reading
Life on the Mississippi
Life in the towns, cities, farms, and on the frontier
Biographies of great inventors, bankers, labor leaders, manufacturers, poets, political leaders
Folklore

Letter Writing (including form, style, vocabulary, punctuation, etc.)
Write letters to corporations which have been influential in the development of the United States. Request information about key inventions and inventors. Find out if they will also send a brief history of the corporation, samples of products, or other demonstration materials. Films; labor unions; N.A.M; Department of Commerce.

Write a letter to an imaginary friend complaining about the hardships of frontier life.

Committee Prceedure
Steering Committee-coordinate planning of the other committees on the unit.

Program Committee--What makes an effective program?
Bulletin Board Committee--Use of different "layouts," colors, letters.
Library Committee--"How can we let others know which books we like?"
Other Committees
Ways to organize group activities; how we behave as a member of a group.

Notes and Outlines
Take notes of things that interest you at an old frontier store or museum. Arrange your notes (the material in them) in an orderly outline. Take notes during a talk given by the teacher or another pupil. Write down questions that you want to ask.

Conversation--formal and informal; a key to popularity--how to improve?
Prepare imaginary conversations between yourself and at least two of the following: minister, mechanic, college professor, salesman, a friend who wants you to go on a camping trip, a leading baseball or football star, a movie actor or actress, a person from whom you want a part-time job. Play both parts or have a friend play...one of the persons above.

Discussion
Planning groups for Initiating and Culminating a Unit: Parents' Day, Group discussions on how life in Sacramento, on the Peninsula or in the Los Angeles area has changed during the past fifty years and how it is changing now. (Interview old residents.) Review interview techniques. Appoint "presenters" to share the group's thinking with the whole class.

Asking and Answering Questions
In your textbook or out-of-text reading, prepare a list of five questions which you think everyone in the class should be able to answer. (Be able to tell why your questions are important ones.) Prepare questions for a "quiz" program--for a test.

Using the Telephone
How has the telephone come to be an essential, a necessary device for many people, for the United States as a country? How has telephone service changed? Telephone etiquette? Direct Dialing--value? Think up an important reason for sending a telegram. How much does it cost per word? What words might be left out without hurting the meaning?

Oral Announcements, Explanations, and Directions
Explain a "construction" project, mock-up, map, "paper sculpturing," graph, plan of a field trip, rules for a classroom game, what committees have to report, etc.

Keeping Records
Note records kept at an old frontier store. What additional records do modern store keepers have to have? Individual records of books read. How to prepare and keep a budget for money spent, for time spent. The place of diaries in history. Develop a time budget.

Filling in Blanks and Forms

Find out what types of forms various adults have to fill out. What forms have you had to fill out so far? What information should you know that is often asked on different forms? Emergency information. Insurance and taxes. Sample tax, interview, deposit, check, receipt, and other forms.

Written Announcements and Advertisements

See if you can find a sample of an advertisement used by early factories to encourage families to come and work for them. How did early states and cities advertise for teachers, working men, and families from the eastern part of the United States? Were advertisements sent to Europe? How were Chinese persons encouraged to come to the United States and work on the railroads? Modern advertising for employment. Prepare a poster announcing a short skit that you and several classmates would like to put on for the class.

Eighth Grade:

U. S. History, Geography, and Civics

Our Democratic Heritage

A nation of cultural diversities

- Difference in race, nationalities, religions, in socioeconomic status
- Contributions of various cultural groups
- Intercultural problems of communities

Government in community, county, state, and nation

- The Constitution of the United States
- The evolution of the idea of democracy
  - Famous documents
  - The application of the Constitution in life today
  - Privileges and responsibilities of American citizenship

Institutions which have been developed to perpetutate and improve democracy are:

Family
School

On the following pages are charts which suggest possibilities for integrating social science and English activities in such a way as to help students meet certain personal-social needs, certain developmental tasks.* These activities are planned for the unit, Our Democratic Heritage.

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* See Havinghurst, R. J., Developmental Tasks and Education (New York: Longmans, Green and Company, 1952), 33-72.

NOTE: The outline for the unit, Our Democratic Heritage, is from the Course of Study and Curriculum Guide of the San Mateo County, 1953.

OUR DEMOCRATIC HERITAGE

Developmental Tasks:*	1. Critical Thinking	2. Speeches and Oral Reports
a. Achieving the behavior of a socially responsible adult.	Panels, themes, special reports, plays, etc. on social issues - in newspapers, analysis of advertising	Campaign speeches, a review of issues. Mock election and nominating assembly.
b. Developing concepts and reasoning skills which are necessary in dealing with problems of democracy.	Word study with incidental spelling - words such as patriotism, loyalty, etc.	"What Democracy Means to Me."
c. Forming a philosophy of life and a set of values that can be realized.	Have students develop their own personal creeds.	Small group discussions of personal creeds. Follow by reports of the groups.
d. Forming new attitudes toward and relations with age mates of both sexes.	What makes a friend? What more than looks makes a girl or boy good.	"So its a boy." "So its a girl." Read and discuss.
e. Accepting one's own body type and masculine and feminine role.	In what ways do fathers and mothers lead different and in what ways similar lives? Etiquette?	A famous man (or woman) I would like to have known.
f. Securing emotional independence of parents	Ways of being more self-reliant in our thinking and actions.	You love your parents but you feel they don't give you enough time with your friends. Informal talk - how to proceed.
g. Acquiring confidence in the ability to earn a living and to be economically independent.	Should you get a part-time job? Do any chores around the house prepare you for adult life?	Each person who has a part-time job describes it and analyzes its relative advantages and disadvantages.
h. Making a wise vocational choice (though it be tentative) and gathering information about that job, position, or profession.	Is a person destined for only one job or job field? How does a person know if he will be successful?	

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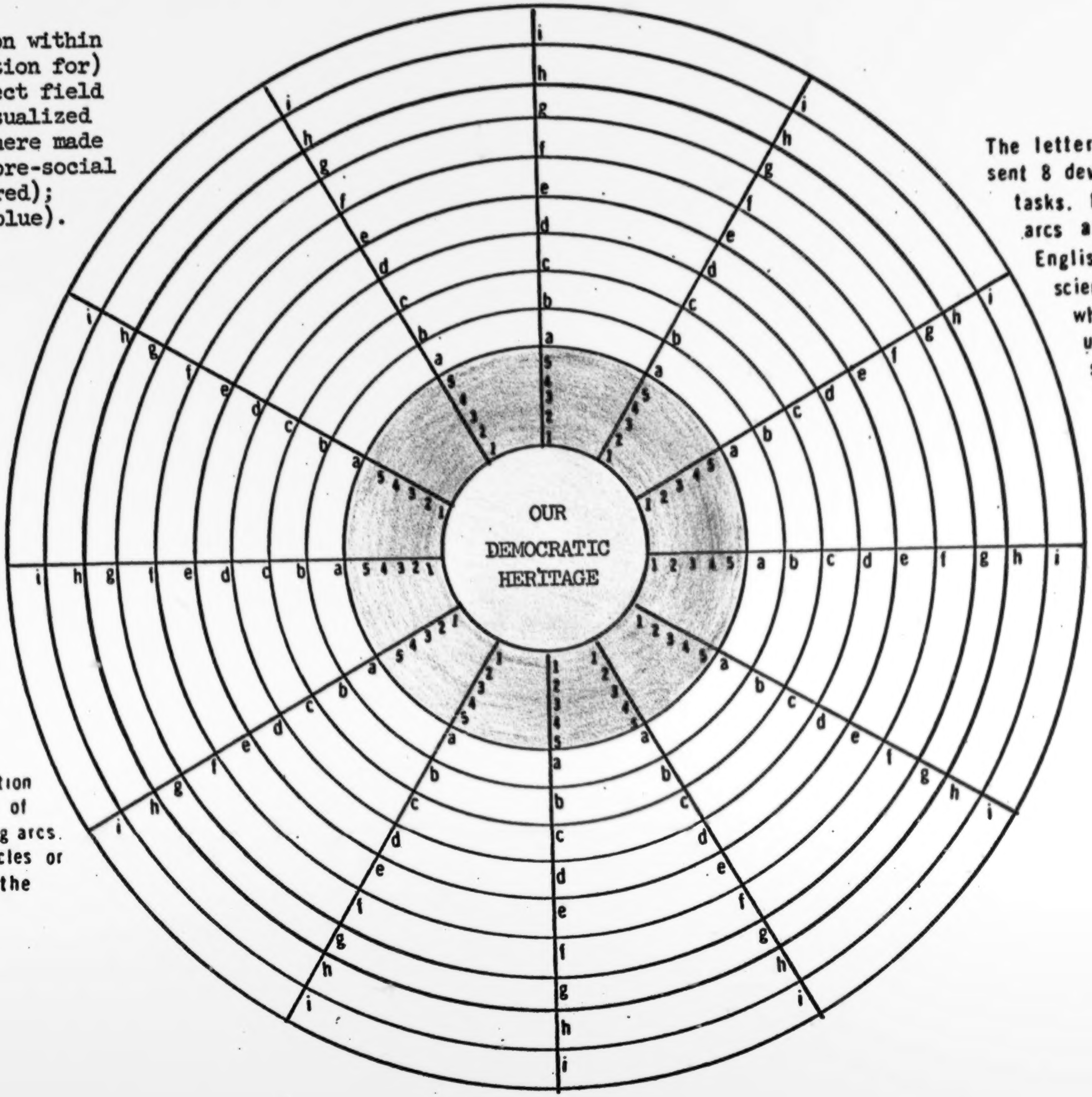
* Havighurst, Robert J. Developmental Tasks and Education, 1952

3. Dramatizations	4. Creative Writing	5. Listening	6. Reading
Socio-drama and unfinished situational stories which students complete re family, social activities, prejudice, etc.	Short story on family, school or community problems.	Carl Sandburg and Walt Whitman phonograph records or teacher reading.	Biographies nation's leaders, leaders of different races and ancestry.
Radio play on U.S. - a melting pot California - a melting pot. Story of new family.	Poems on "Why Immigrants Came to the United States?"	"I can hear it now--" (radio)	Articles about the same event by two or more newspapers or magazines. (compare)
Original play on how our lives might be like without a government which guards our "Bill of Rights."	Descriptive theme: "What Life Would Be Like in the U.S. if I Were President!"	Attend a city council or Board of Education meeting with parent. Report to the class.	Great documents; a book about religions.
Mock board or parents' meeting discussing boy-girl problems.	"Your rights stop where my nose begins." Illustrate and write caption for illustration.	Listen to a group of friends talk. What do we learn from our friends? For what things do we listen?	Mind your manners. Why etiquette? Be prepared to demonstrate with a friend.
How you might or do help at home when coming home after school.	"Fat people" are jolly. Why? (humorous anecdote). The all American girl. The all American boy.		News analysis about girls and boys in the news.
Socio-drama. Write narrative. Act out what you and a friend of yours consider ideal parent-child relationships.	How I hope to be living ten years from now. How I would spend $10,000.	T.V. or radio program re family life, true to life, why, why not.	Books on boys and girls on their own for the first time e.g., trip.
Democracy---relations between labor and employers. A bargaining conference.	Is it undemocratic to restrict the kind of work children can do? Child labor laws?		Job notices in papers and magazines, notices that appeal; those that do not.

Note: The developmental tasks (a-h) are eight of nine tasks of adolescents defined by Robert J. Havighurst in Developmental Tasks and Education (New York: Longmans, Green and Company, 1952).

THREE DIMENSIONS



Integration within (appreciation for) each subject field can be visualized by the sphere made by each core-social science (red); English (blue).

The letters a - i represent 8 developmental tasks. In each of the arcs a - i are listed English & social science activities which can be used to help students perform these tasks.

Fulfilling the guidance function can be thought of as the radiating arcs. concentric circles or layers around the inner core.

APPENDIX VII

NOTICE OF RESEARCH PROJECT
SCIENCE INFORMATION EXCHANGE
SMITHSONIAN INSTITUTION

NOT FOR PUBLICATION OR PUBLICATION REFERENCE

PROJECT NO. (Do not use this space)
GV

SUPPORTING AGENCY: U.S. Dept. of Health, Education and Welfare
Office of Education, Cooperative Research Branch

TITLE OF PROJECT: Demonstration of Differential Programming in Enrichment, Acceleration, Counseling, and Special Classes for Gifted Pupils in Grades 1-9. D-072

Give names, departments, and official titles of PRINCIPAL INVESTIGATORS and ALL OTHER PROFESSIONAL PERSONNEL engaged on the project.

Dr. Richard M. Clowes, Associate State Superintendent of Public Instruction, Chief, Division of Instruction, California State Department of Education.
Dr. Paul D. Plowman, Consultant in the Education of the Mentally Gifted, Bureau of Secondary, California State Department of Education.
Dr. Joseph P. Rice, Consultant in the Education of the Mentally Gifted, Bureau of Elementary Education, California State Department of Education.

NAME AND ADDRESS OF INSTITUTION: California State Department of Education, Division of Instruction, Bureaus of Elementary and Secondary Education, 721 Capitol Avenue. Sacramento 14, California.

SUMMARY OF PROPOSED WORK - (200 words or less. Omit confidential data.) - In the [illegible]ce Information Exchange summaries of work in progress are exchanged with government and private agencies supporting research, and are forwarded to investigators who request such information. Your summary is to be used for these purposes.

Purpose: To demonstrate and promote differential plans for the education of gifted children and youth.

Objectives: To develop programs in (1) acceleration, (2) enrichment, (3) counseling, and (4) special classes. To develop (1) curriculum materials, (2) school district centers, (3) evaluation procedures, (4) lines of communication, (5) unique educational materials and pupil projects, and (6) workshops and inservice training techniques.

Procedures: Project consultants will work directly with school district centers. Each center will specialize in one of the following: (1) enrichment of the regular classroom programs for children in grades 1-9 by means of unique teaching methods and special pupil projects, (2) acceleration without grade skipping for children in grades 1-6 by utilizing a special summer school program, (3) special guidance programs in grades 7-9 which interrelate counseling and instructional methods for youth in grades 7-9, and (4) special classes for gifted children in grades 4, 5, and 6 which stimulate problem solving, insight and the skills of inquiry.

Summer workshops will be attended by participating personnel and other interested parties. Monthly inservice meetings will provide the main sources for teacher training and the dissemination of information. Summer workshops should evolve into regional workshops to include personnel from the whole Western Region. The office for the mentally gifted, at the State level, will coordinate the various phases of this program.

This project promises to provide broader scope and purpose to programs for the gifted. Programs developed will be shared with school districts and materials and resources disseminated as widely as possible.

Start: April 15, 1963 - End: December 31, 1966.

SIGNATURE OF PRINCIPAL INVESTIGATOR Richard M. Clowes

Identify the Professional School (medical, dental, public health, graduate, or other) with which this project should be identified:

SCHOOL

INVESTIGATOR—DO NOT USE THIS SPACE

Appendix A
Project #D-072

Project Title: Demonstration of Differential Programming in Enrichment, Acceleration, Counseling, and Special Classes for Gifted Pupils in Grades 1-9.

Submitted by:
California State Department of Education
Division of Instruction
Bureau of Elementary Education
Bureau of Secondary Education
721 Capitol Avenue
Sacramento 14, California

Telephone Number: HI 5-4711
Extension 3023 - Dr. Richard M. Clowes, Associate State Superintendent of Public Instruction
Extension 5511 - Dr. Paul D. Plowman, Consultant in the Education of the Mentally Gifted, Bureau of Secondary Education
Extension 5361 - Dr. Joseph P. Rice, Jr., Consultant in the Education of the Mentally Gifted, Bureau of Elementary Education

Initiated by:

Dr. Paul D. Plowman
Consultant in the Education of the Mentally Gifted,
Bureau of Secondary Education

Dr. Joseph P. Rice, Jr.
Consultant in the Education of the Mentally Gifted,
Bureau of Elementary Education

Transmitted by:

Dr. Richard M. Clowes
Associate State Superintendent of Public Instruction,
Chief, Division of Instruction
California State Department of Education

Date Submitted: December 20, 1962

Date Revised: April 2, 1963

Purpose

The specific purposes of the proposed center are (1) to demonstrate and promote "enrichment," "acceleration," "counseling-instructional," and "special-class" programs for mentally gifted boys and girls; (2) to establish six school districts as foci of educational innovation in the area of gifted child education; (3) to involve State Department of Education, county, local-school district, and college personnel in a task-force approach in planning, coordinating, and evaluating four aspects of this proposal; in performing in-service education functions; in communicating ideas and information through a newsletter, filmstrips, kinescope tapes, press releases, and articles in professional journals; and in doing some of the important developmental work needed in publishing teaching guides and in establishing suitable in-service education and teacher-training programs; (4) to carry out recommendations made at three area meetings held in California in November, 1962; (5) to establish demonstration situations, ways of organizing and administering, and the means of validating educational and counseling programs which will be observed by and might become models for personnel from neighboring states; and (6) to provide information and develop teaching in-service and pupil materials which might also be published by or used by the Office of Education, U. S. Department of Health, Education, and Welfare, or by any state department of education.

Six districts, then, will each emphasize one of the four types of programs. The demonstrations will be under the auspices and coordination of the Division of Instruction of the California State Department of Education. The project should result in greater integration of program types and extended participation by pupils and school districts.

Also anticipated are the production of guidelines on guiding and counseling gifted and highly gifted children; guidelines on fostering those aspects of creativity, defined by researchers such as Dr. J. P. Guilford and E. Paul Torrance; a syllabus for summer college workshops; a course of study for a summer school program for accelerated students; film, filmstrip, kinescope take, and other in-service education material; and procedures for differentiating programs to meet the unique needs of gifted children; and procedures for integrating gifted-child programs within school systems.

Background

Through the influence of Dr. Lewis M. Terman, Dr. J. P. Guilford, Dr. D. W. MacKinnon, and other research persons in California, educators have become aware of the characteristics of gifted children and aware of criteria by which they might judge educational and counseling programs designed for them. In 1957, the California State Legislature authorized a three-year study to (1) assess the educational needs of gifted children in California, (2) study seventeen different types of programs, and (3) determine what expense was incurred by districts in identifying and in providing programs for mentally gifted minors.*

---

* A mentally gifted minor is defined in Section 6421 of Article 14 of the California Education Code as "a minor enrolled in a public primary or secondary school of this State who demonstrates such general intellectual capacity as to place him within the top 2 percent of all students having achieved his school grade throughout the State."

This study, under the directorship of Dr. Ruth Martinson, reported:

> All phases of the evaluation made of programs for gifted pupils included in the state study showed conclusively that special provisions made in these programs were beneficial. Preliminary study of the pupils revealed them to be a population of extremely high ability, with desirable personal and social characteristics. Evaluation made through various tests and through judgment of parents, teachers, and pupils proved the participating pupils made striking gains in achievement with accompanying personal and social benefits.
>
> Cost data furnished by the participating districts showed that per pupil identification costs amounted to $39.63 in a rural county and $47.63 in an urban county. Program costs, including identification, range from $89.36 to $269.84 per pupil.
>
> These cost data became the basis for a proposal made to the Legislature that districts be reimbursed up to $240 for excess identification and program expenses incurred for mentally gifted minors.
>
> On June 28, 1961, legislation was passed which has done much to focus attention of school personnel and the public upon the unique educational needs of mentally gifted minors. It encourages careful identification, suggests six types of programs and provides excess cost funds to school districts. Public school districts are reimbursed up to $40 per year for each properly identified mentally gifted minor in an approved program for a school year. Additional funds of $30,000 the first year were made available to establish consultation and supervision service in the State Department of Education

Thirty-eight thousand seven hundred and twenty-one mentally gifted minors and 188 school districts participated in approved programs during the 1961-62 fiscal year. The number of gifted children represents 1.1 percent of the total public school population in kindergarten and in grades 1-12. It is anticipated that 70,000 mentally gifted minors, 2 percent of the pupil population, will be in approved programs during the 1962-63 school year.

During the 1961-62 school year, 16,406 gifted pupils were in "enrichment," 5,109 in "acceleration," 4,021 in "special counseling," and 14,963 in special-class programs. Some pupils participated in more than one type of program.

Total "excess expense" for gifted-child programs in California in 1961-62 fiscal year was $2,936,208.27. The State of California reimbursed districts $1,343,449. Local financial effort amounted to $1,592,759.27 or 54 percent of the reported excess costs.

The data presented in this section of the application means that California has extensive research basis for the present operational program for gifted children, two years of a statewide program encompassing careful identification, development of individual case study records, six suggested types of educational and counseling programs, and reimbursement to school districts on an "excess-cost basis" of $40 per mentally gifted minor in an approved program for a school year.

This demonstration project would be an amplification of the present operational program and would do much to improve the quality of special educational experiences for an estimated 70,000 mentally gifted minors and perhaps another 100,000 children in the upper five percent of general mental ability.

Although excess-cost reimbursement was provided for the upper two percent of the pupil population, districts, in fact, generally made special provisions for the upper five percent. The five percent figure in the 1962-63 school year might mean involving 175,000 children in special programs.

Data has been collected on programs in California during the 1961-62 school year and will be presented in a report to the State Board of Education early in 1963.

Although the money available on an excess-cost basis is in many cases only enough to cover identification costs, these reimbursement monies did encourage development of special programs. Local school districts in fact bore 54 percent of the total excess expenses which amounted to $83.57 per mentally gifted minor.

It should be noted that the original legislation did call for a consultant and supervisory service and that two consultants were employed to help school districts establish and evaluate programs for gifted children. Rules and regulations suggested these six types of programs: enrichment in regular classes, correspondence or tutoring, placement in advanced classes (acceleration), high school students attending college, special counseling and instructional programs outside of regular classes, and special classes designed especially for mentally gifted minors.

From the districts that have participated in the three-year study, from those that participated in programs during the last fiscal year, and from those that participated during the five to ten years that preceded the three-year study, it will be possible to select four school districts which might become "lighthouse" situations and highly important factors in educational change in the area of gifted child education.

On the basis of the three-year study, one year in which the six types of programs mentioned were operational on a statewide basis, relationships established with county school districts, local school districts, and institutions of higher education; and on the basis of consultant and supervisory service available, it is recommended that the Division of Instruction of the California State Department of Education become a project center functioning with the support of funds from the United States Department of Health, Education, and Welfare and coordinating four different demonstrations, one in each of the four separate school districts in the state. Additional support of this request is found in the involvement during the 1961-62 fiscal year of 188 school districts in special programs and in the anticipated participation of 70,000 mentally gifted minors, and possibly an additional 105,000 academically talented pupils during the 1962-63 fiscal year. Effort has already been made by the State of California in the matter of providing excess-cost reimbursement and a consultation and supervisory service. To be noted also is the recommendation which has been framed and will be made to the California State Legislature that $50,000 be set aside for demonstration centers in school districts throughout the State.

Procedure

General Outline of the Proposal.

The purpose of this proposal is to demonstrate, refine and disseminate curriculum materials, teaching techniques, and program descriptions in four major areas of education for mentally gifted children and youth. The four educational plans include: (1) enrichment of the regular classroom programs for children in grades 1-6 and probably junior high school by means of unique teaching methods and special pupil projects, (2) acceleration without grade skipping for children in grades 1-6 by utilizing a special summer school program, (3) special guidance programs in grades 7-9 which interrelate counseling and instructional methods for youth in grades 7-9, and (4) special classes for the gifted children in grades 4, 5, and 6 which utilize instructional procedures designed to stimulate problem-solving, insight and the skills of inquiry.

Emphasis will be placed upon integrating and interrelating the various education plans demonstrated. Districts initiating programs for the gifted will be advised to plan for multi-dimensional programs rather than single programs. By offering many plans, a given school district will be in a better position to meet the varied needs of their gifted children. Most of the participating demonstration districts have other programs functioning in addition to those they will focus upon for the purposes of this proposal. The outcomes of this project will include specific plans for each of the four demonstrations including descriptions of (1) criteria of selection for teachers, (2) identification procedures for pupils, (3) program descriptions, (4) teaching guides and techniques, (5) evaluation procedures which may be based on Taxonomy of Educational Objectives. Handbook 1: Cognitive Domain (Benjamin S. Bloom, Editor), and (6) materials. In addition, an overview will be developed which will describe ways in which these four plans can be integrated and differentially administered in a given school district.

There will be a number of direct participating school districts and a number of affiliated school districts. The probable participating districts include:

Southern California Area:

Demonstration District	Specific Demonstration	Proximity to:
Pasadena Unified School District	Acceleration - Summer School	UCLA, Long Beach State College
Los Angeles Unified School District	Enrichment	UCLA, Los Angeles State College
Lompoc Unified School District	Special Classes	University of Calif. at Santa Barbara

Northern California Area:

Demonstration District	Specific Demonstration	Proximity to:
San Juan Unified School District	Special Counseling	Sacramento State Coll. State Dept. of Educ.
Davis Unified School District	Special Classes	University of California at Davis
Ravenswood Elementary School Dist.	Acceleration - Summer School	Stanford University

A main purpose of this demonstration project will be to disseminate materials and programs for wide-spread use by school districts. Therefore, project materials and certain consultant services may be "on loan" to affiliated districts occasionally in order to spread and perpetuate the outcomes of this project.

The following general outcomes are anticipated:

1. Increased participation of school districts offering programs for the gifted in and out of California.

2. Increased commitment on the part of observers from California and from other states to establishing programs incorporating and intimately relating guidance, counseling, and instructional dimensions.

3. Production of materials which will help raise the level of sophistication of teachers, parents, consultants, and school administrators with respect to characteristics and needs of gifted children methods of instruction, materials, and suitable means of evaluation. It is anticipated that private film companies may be involved and that the distribution of these materials may be nationwide.

4. Continuation of demonstration centers in other selected districts after termination of the federal project.

5. Overall improvement of the quality of gifted child programs in California with ramifications and implications to educational programs for all academically talented children.

6. Meeting the diverse and unique educational needs of all gifted children by using differential techniques, teaching methods and materials.

7. Demonstrating specific educational programs for different types of gifted children such as low achieving, high achieving, special problem, as well as other types of youngsters.

The following production items will be developed for each of the four demonstrations: (1) identification procedures, (2) summer workshop outlines for participating staff members, (3) in-service guides, (4) curriculum outlines, (5) lists of materials including unique developments, (6) parent guidelines, (7) evaluation procedures, and (8) final reports.

The approximate schedule of major events includes:

April to June, 1963
Hire project consultants; assign staff in local demonstrations; develop outlines for demonstrations; plan, prepare materials for summer workshop.

Summer, 1963
Conduct first advanced placement summer school; first summer workshop for professional participants; refine project outlines, procedures, materials during workshop; train participating teachers.

1963-64 School Year

Commence academic program demonstrations; project consultants begin developing outlines, guides, materials; monthly in-service meetings for participating staff; project consultants work with demonstration districts by schedule; demonstration districts visited by interested outside agencies.

Summer, 1964

Conduct second advanced placement summer school; second workshop for professional participants, districts other than participants invited; first annual report prepared by project consultants.

1964-65 School Year

Repeat events of 1963-64, in addition: more districts become involved; in-service techniques developed into guides.

Summer, 1965

Third advanced placement summer school, sixth-grade involved; third professional summer workshop which will be organized as a "regional conference" anticipating widespread attendance of teaching, consultative, and administrative personnel from the school districts and counties of California as well as from neighboring states.

Second annual report prepared; begin work on final report.

1965-66 School Year

Repeat events of 1963-65.

July to December, 1966

Final report prepared. Materials, outlines, and guides disseminated in final form.

Enrichment Demonstration

A recent survey of programs for mentally gifted minors offered in California indicated that enrichment was the most commonly used type of program. There was some indication that this type of program may lack firm definitions and specific operational techniques and procedures. The Los Angeles Unified School District has developed many interesting and appropriate papers including a pamphlet entitled, "Education of Intellectually Gifted Pupils in Los Angeles City Schools," "Enrichment for the Intellectually Gifted," and a whole series of outlines in specific subject-matter areas such as "Enrichment Activities in Art for Intellectually Gifted Pupils." Since the Los Angeles Unified School District has already developed meaningful materials, they will probably act as the demonstration center for enrichment.

In order to develop practical and meaningful procedures and materials for use by other school districts, it will be necessary for a project consultant to devote at least three days a week to this particular demonstration. This aspect of the demonstration center will focus on both methods courses for elementary and junior high school pupils and special projects for these pupils. The first year will involve pupils in grades 1-6. Involvement of junior high school pupils is expected to take place the following year.

Methods, courses, and subject-matter enrichment outlines for elementary and junior high school pupils will be developed. The pupil needs continued opportunity to develop the methods of scientific investigation, critical appreciation, and creative expression throughout his entire schooling. Considerable evidence exists to indicate that gifted pupils develop the intellectual capability and curiosity for creative expression much earlier than normal pupils. Therefore, this proposal is designed to stimulate the qualities of intellectual curiosity and creativity much earlier in the development of the pupil. The gifted pupil's introduction to scholarly methodology will probably occur in the fourth grade.

This portion of the demonstration has two distinct phases, the first phase of which will probably take one semester, with the following year needed to cover the second phase.

Phase I. The development of special short courses including the training of appropriate teachers in the areas of:

a. scientific methodology and investigation,
b. critical appreciation, and
c. creative expression.

Phase II. The development of specific curriculum materials and projects for the individual pupil.

During the first one-semester phase of this project, three demonstration teachers will be specifically trained to offer short-term courses in such areas as scientific methodology, critical appreciation, and creative expression. The specific mission of these three short courses will be to unleash research potentialities in the pupil much earlier than is now the case. A given demonstration teacher could offer this course to several classes simultaneously at different times of the day. For example, the teacher could expose gifted pupils to the essential methodology of science, art, and expression in their various specific group settings. The methods course in scientific methodology and investigation would stress the application of experimental techniques in approaching and solving an individual problem including the typical steps in research. The methods course in critical appreciation would stress scholarly understanding of nonverbal arts with such emphases on relationships among such factors as timing, motion, rhythm, and historical sequence. The methods course in creative expression would stress the language arts, particularly creative writing and poetry. For example, the pupil would be introduced to the rudimentary rules for writing and poetry. These methods courses could be designed to meet three hours a week for six weeks.

During the semester in which this proposal is innovated, the first half of the semester is expected to be devoted to the training of the specialist teachers and the second half of the semester to the actual instruction in the methods courses described.

The second phase for the following year of this project would involve the instructing of successive professional groups in the methods courses outlined, and the development of special pupil projects for individual research.

These special projects will be developed by the participating teachers and curriculum consultants around the three main themes of science, art, and creative verbal expression. The purpose of these outlines would be to supply the pupil with projects in which he can exercise his newly discovered methods for research.

In general, an "outline" will include all of the explanations, resources, and content necessary to carry out a given enrichment project. As minimum standards, the outline will include: (1) general purposes, (2) specific daily goals, (3) teaching methods and classroom experiences, (4) content and lesson plans, and (5) resources and materials. Each outline will be supplemented by a "teaching guide" which will specify textbooks and other resource materials by means of which the teacher could study the content of a given project in order to keep ahead of the pupil.

The outlines could be cross-classified for use by different levels (primary, intermediate, upper-elementary, and junior high) and by subject matter such as (1) fine arts, (2) foreign language, (3) human relations, (4) language arts, (5) literature, (6) mathematics, (7) science, and (8) social studies or specific headings such as history, sociology, etc.

The tangible outcomes of this proposal probably will include: (1) courses of study for the methods courses in scientific methodology, critical appreciation, and creative expression, (2) specific project outlines for individual research which will be indexed and cross-filed according to the classifications noted above, (3) in-service training courses to prepare teachers to instruct in the methods courses described above, and (4) a group of trained teachers who could carry on this work during successive years.

Acceleration Demonstration

In view of the need for a simple, inexpensive, yet effective program for meeting the needs of academically talented pupils, the California State Department of Education has developed an individual placement project to demonstrate acceleration without actual grade skipping. Chapman has stated, "Acceleration... has certain advantages that are not contained in any of the other methods." Chapman goes on to say that this method saves money, time and obviates the need for differential and complex programs. However, he warns, "Grade-skipping... adjusts the child to the system. ...the child is entitled to a more logical, sustained, planned curriculum than that offered by skipping." Klausmeier and Ripple have recently demonstrated the "effects of accelerating bright older pupils from second to fourth grade." Using the public elementary schools of Racine, Wisconsin, they conducted a controlled experiment to ascertain the effects of "accelerating from the second to the fourth grade pupils of superior learning abilities." They carefully compared their accelerants with six comparison groups in the third and fourth grade and including pupils of average and superior intelligence. Their findings favored acceleration. Among other findings, they stated, "Since accelerants performed as well or better than their older third grade controls at that time, their acceleration was not harmful...to the extent that enabling students of superior learning abilities to graduate from high school at age seventeen rather than at age eighteen is a worthwhile end, the results of this experiment are interpreted as strongly favorable toward accelerating..."

This portion of the demonstration center will focus on academically advanced pupils who will be identified during the second semester of the second grade. As few as two percent and as many as five percent of the second grade pupils may be identified as sufficiently advanced to embark upon a special substitute third-grade summer program. The six-week summer program will be designed to offer them a condensed review of the third grade. In general, the first two weeks of the program will be devoted to a review and evaluation of third grade skills with the last four weeks being devoted to individual tutoring and special projects. During their fourth and fifth grades, the accelerated pupils will receive periodic evaluations to ascertain their progress and special requirements. An individual counseling program will supplement their experiences during the fourth and fifth grades. At the end of the fifth grade, the advanced individual placement group will be evaluated with a view toward placing those pupils with sufficient readiness into a special summer program which will substitute for the sixth grade. The substitute sixth grade program will include a review of sixth grade level work, individual tutoring, and projects. Talented pupils not earlier identified may be included in the sixth grade summer program.

The acceleration portion of the total demonstration may well accomplish the institutional goals of economy, simple administration and time-saving without ignoring the individual child and without involving the wholesale skipping of grades without review. This form of acceleration depends upon such factors as (1) the prescription of thorough differential identification techniques, (2) the extensive followup study of the individual pupil including any personal counseling he may require, (3) the structuring of special substitute grade summer programs including the development of appropriate curriculum, (4) the supplying of sufficient consultant help for teachers in order to help them meet the specialized needs of the individually placed pupils, and (5) the availability of sufficient tutoring help for that minority of pupils requiring special tutoring or counseling.

Several California school districts including the Pasadena Unified Schools, Fresno Unified School District, Ravenswood Elementary School District of East Palo Alto, and Chico Unified School District plan to participate in this demonstration beginning in the summer of 1963. The Pasadena Unified School District and the Ravenswood Elementary School District probably will be the demonstrating districts. Interesting and diversified comparative data will be collected during the duration of this demonstration since the participating school districts are geographically dispersed, have different organizational plans and include widely varied types of populations.

The initial spring semester of the demonstration probably will be devoted to (1) the development of forms, procedures and reporting techniques, (2) the identification and certification of participating pupils, (3) the counseling and tutoring of participating pupils in preparation for the summer program, (4) the final development of the six-week summer school including appropriate curriculum development, and (5) in-service training for participating teachers, counselors and consultants. During the first year of this demonstration, acceleration will occur at the third grade level only. The second year of acceleration will occur two years hence at the sixth grade level. The participating pupils will be identified on the basis of such factors as an individual intelligence test, case study including a summary of the pupil's academic background, teacher ratings, standardized test results and other findings.

Each year a group of advanced second grade pupils will become involved in the individual placement demonstration. However, each group will have to be followed up with appropriate counseling and tutoring services, evaluation, and program enrichment in their regular classes.

Earlier experimental studies have indicated that accelerated pupils do not significantly differ in general academic achievement, school grades and social development from the chronologically advanced pupil with whom they are placed. Moreover, there is some indication that the accelerated pupils may surpass intellectually matched peers who are not accelerated. This demonstration project will add to the already formidable pool of data describing these accelerated pupils. This demonstration will emphasize the development of (1) descriptive and thorough identification techniques and procedures, (2) sound curriculum for the substitute summer school grades, (3) descriptions of counseling and tutoring methods for younger elementary school pupils, and (4) specific in-service training techniques to prepare summer school teachers, counselors and others involved in acceleration demonstrations.

It will be necessary to systematically integrate other methods with this one. For example, when the pupil is placed in the advanced grade he will not cease to have highly specialized needs. These needs might be met by providing him with enrichment activities. Also, there will be an important need to utilize counseling techniques at the elementary school level and to articulate the elementary and the secondary schools in the proper handling of the accelerated pupil. During later stages of this demonstration, some comparisons may be made with gifted pupils who were merely skipped or with groups accelerated by other techniques.

Special Counseling, Guidance, and Instruction Demonstration

The third aspect of the demonstration center is designed to show a way to encompass, interrelate, and promote guidance, counseling, and instruction in grades seven, eight, and nine. The purpose is to demonstrate interrelated curricular improvement, guidance, and counseling methods uniquely tailored to gifted boys and girls in grades 7-9 and which may be applicable to children in grades 10-12.

Two initial aspects of this program are:

1. To demonstrate learning, counseling, and guidance situations, activities, and experiences which mutually meet educational and guidance needs of individuals, mutually promote educational and developmental goals, are based on accumulated data in individual case study records (including motivational structure, interest patterns, and special abilities of children), advanced communication skills, encourage development of a personal set of values and philosophy of life, and promote more effective learning of social science and English in grades 7-9.

2. To demonstrate learning situations which promote those factors of creative behavior such as those outlined in the research studies of Dr. J. P. Guilford and Dr. E. P. Torrance - e.g., associational fluency, sensitivity to problems, and adaptive flexibility.

2.83 a case-study approach to curriculum development, including preparation of guidelines, resource units, and other materials.

2.84 impartial evaluation of each aspect of the program.

2.85 distribution of materials to other districts, and to the Office of Education, Department of Health, Education, and Welfare, and upon request, to state departments of education.

2.86 performance of those functions thought to characterize a demonstration as "excellent," those functions that will play a significant part in encouraging the inauguration or improvement of interrelated guidance, counseling, and instructional programs for gifted children.

Three assumptions underlying aspects one and two of the counseling-guidance-instructional situations are:

1. The district selected should have a highly sophisticated educational program designed to promote certain behavioral goals.

2. Educational experiences comprising the course of study should be based upon modern learning theory and adequate research.

3. The philosophical orientation of teaching, consultative, and administrative personnel should be that of focusing upon improving the quality of behavior and of individuals, and will focus upon helping children to extend their rational powers; to grasp and make interrelationships between concepts and subject matter fields; to make realistic appraisals of their abilities, goals, and value; to develop greater sensitivity and awareness; and to acquire a dynamic concept of self and of relationships with other people, institutions, and things in the environment. Counseling might aid instruction by helping a student see how particular classroom experiences may help him form a personal philosophy of life, including a set of values which will tend to integrate future experience. Counseling may help some students acquire more acceptable relationships with chronological peers and with teachers. Counseling may help a student relate instruction and other classroom activities to his personal goals. It might also help him to function more creatively in performing certain assignments. It might also help a student integrate and see the relevance of the concerns, issues, knowledge, and skills from various subject fields to his own life.

The San Juan Unified School District in Carmichael, California, has been tentatively selected as the district for the counseling-instruction demonstration. It is anticipated that the demonstration project coordinator located in Sacramento would spend half of his time working with administrators, curriculum consultants, psychologists, counselors, and teachers in the district. The district is adjacent to Sacramento.

It is not proposed to rewrite the basic curriculum of the school. It is, however, proposed to demonstrate educational, counseling, and guidance experiences which will make adequate provision for unique characteristics of mentally gifted boys and girls.

To accomplish this, the following steps are proposed:

1. Acquaint teachers, consultants, and administrators with general educational goals and personality characteristics of gifted children.

2. Devise a means of assessing the interest and motivational patterns of individual gifted children.

3. Use data in the cumulative folders and in the individual case study records, required by the rules and regulations governing programs for mentally gifted minors in the State of California, as a basis for this assessment and as a basis for planning individualized and group learning experiences.

4. Plan and demonstrate educational experiences which will advance the adopted course of study and at the same time improve personality characteristics as well as promote certain general educational goals for gifted children.

5. Demonstrate techniques of evaluating an interrelated guidance-counseling-instructional program on the basis of behavioral change and on the basis of success in achieving other goals.

6. After sufficient time, possibly four to six weeks, has elapsed for teachers, consultants, and administrators to have had experience with and to have internalized some of the principles emanating from a "case study" approach to curriculum planning, then it will be possible for them to begin to make provisions for fostering creative thinking and production.

7. Educational experiences will be planned specifically by curriculum and guidance personnel to help children achieve certain developmental tasks of adolescence and to realize a well-balanced array of objectives such as those outlined in Bloom's Taxonomy of Educational Objectives: The Cognitive Domain and French, et al., Behavioral Goals of General Education in High School.

8. On alternate weeks, a school psychologist or counselor will meet with small groups of about 15 children for an hour or for a regular school period to uncover group or individual problems, to discuss values and behavior, to reflect upon the great ideas of man, to attempt to divest minds of stereotypic thinking and functional fixedness, to promote tolerance for and to encourage expression of ideas that may be highly creative and, perhaps, nonconforming.

9. Individual counseling will be provided in grade 9.

10. The day after the small group counseling situation, the psychologist or counselor will meet with the teacher of these children to discuss educational ramifications of the counseling sessions. The children will know that the psychologist or counselor and the teacher are functioning as a team.

11. During the alternate weeks when the children will not attend the small group meeting, definite provision will be made for the teacher to undertake certain guidance activities related to these meetings.

12. Evaluative devices including rating scales may be developed which will spell out behavioral goals of gifted boys and girls. Other evaluative devices will be used to show progress in activities designed to promote the primary mental abilities of human intellect and various educational objectives.

Dr. Leon Lessinger, Research Director of the California State Three-Year Study on Gifted Children has done some preliminary work in the Grossmont Union High School District on planning and evaluating curriculum which advances objectives defined in the "Taxonomy." Frank E. Williams, Associate Professor of San Jose State College has, through working with teachers, defined creative activities and experiences in language arts and other subject areas which advanced the primary mental abilities of human intellect.

The anticipated time schedule for Aspects One and Two is as follows:

April-June, 1963
1. Planning summer workshop.
2. Orientation of district personnel.
3. Administrative arrangements and agreements reached with school district.

Summer, 1963

1. Summer workshop - one week to help teachers plan educational experiences for gifted children in the light of information in cumulative and, when available, individual case study records.

First School Year
1. Weekly meetings - the first four weeks of the fall semester - with the teacher, director or consultant of programs for the gifted, school principal, and counselor or psychologist.
2. Monthly in-service meetings of the district personnel for the duration of the program. These would utilize resource consultants from such institutions as Stanford University, University of California, and Sacramento State College.
3. Demonstration project open to observers after the first half of the school year: English and social studies classes.
4. Tentative descriptive materials available after the first half of the school year.
5. Progress report due January, 1964.

Summer Workshop

Second School Year
1. Weekly meetings - the first four weeks of the fall semester with the teacher, director or consultant of programs for the gifted, and counselor or psychologist.

2. Monthly in-service meetings for personnel.
3. Demonstrations open to observers: English and social studies classes and small group guidance situations.
4. Preparation of tentative guidelines for counseling gifted children in grades 7-9.
5. Preparation of tentative guidelines for fostering creative thinking and production in English and social studies in grades 7-9.
6. Progress report.

Third School Year

1. Continuation of pattern of weekly meetings and monthly in-service education meetings.
2. Continuation of demonstrations.
3. Preparation of guidelines for counseling gifted children in grades 7-9.
4. Preparation of guidelines for fostering creative thinking and production in English and social studies in grades 7-9.
5. Production of filmstrips, films, kinescope tapes, and other in-service education materials which show the guidance, counseling, curriculum development, and classroom teaching aspects of this demonstration.
6. Final report.

Through summer workshops, demonstration classes, small group counseling situations, and monthly in-service education meetings with key personnel from neighboring institutions of higher education, the following should result:

1. Guidelines describing techniques and materials that might be used by school psychologists and counselors in counseling gifted and highly gifted children. Attention will be given to meeting the unique educational, counseling and guidance needs of low-achieving gifted children, high-achieving gifted children, gifted children with special problems or with highly specialized interests.

2. Guidelines for fostering creativity in English or social studies in grades 7-9.

3. Films, filmstrips, kinescope tapes, and other materials that might be used in in-service education of counselors, consultants, and teachers - prepared with the assistance of the Bureau of Audio-Visual and School Library Education, the Bureau of Elementary Education, the Bureau of Pupil Personnel Services, and the Bureau of Secondary Education of the State of California and/or private film companies.

   These materials will portray characteristics of gifted children, ways of dealing with particular problems of gifted children, how parents and other members of the community and school personnel might work together in developing programs for gifted children and for providing special opportunities for them.

4. Syllabus of special summer workshops for teachers.

5. Descriptive materials including evaluation of monthly meeting with key personnel in the areas of gifted-child education or with personnel whose area of specialty contributes significantly to these aspects of the demonstration.

6. Increased participation throughout California of students and of school districts in interrelated guidance, counseling, and instructional programs for gifted children.

7. Increased competence of teachers, consultants, administrators, counselors, and psychologists in meeting the unique learning and guidance needs of gifted children in grades 7-9.

Special Class Demonstration

The purpose of this portion of the demonstration center is to emphasize instructional and evaluative procedures for special classes of intellectually gifted pupils in grades 4, 5, and 6. Instructional procedures are designed to provide (1) direct experiences in the processes of problem solving, (2) insight into the applicability of facts and principles to a description or an explanation of relationships, and (3) insight into how learning takes place.

The state of affairs of man's human relations has created an awareness of the need for a citizenry whose behavior reflects an understanding of the applicability of knowledges and skills to all areas of human endeavor. The need, therefore, to identify techniques by which classroom teachers can attain these specific behavioral goals is particularly evident at this time.

The contribution of the center will lie primarily in the demonstrations of a rationale of teaching and learning which enables the intellectually gifted to function rationally and creatively in leadership roles.

Two phases of the program have been evaluated. This experience serves as research background for the special class demonstration. Dr. Elizabeth Irish has recently concluded a two-year study designed to evaluate the ability of fourth-grade pupils in Santa Barbara City to describe and explain mathematical concepts and processes. Mrs. Alphoretta Fish has prepared and taught specially designed science lessons to sixth-grade pupils in the Lompoc School District, Santa Barbara County, in an effort to ascertain whether or not sixth graders can improve their problem solving skills as they gain insight into the applicability of science facts and principles to a description or an explanation of environmental phenomena. At the present time, teachers in the Rio Linda School District, Sacramento County, are being trained by Mrs. Fish to use the lessons with fifth and sixth grade pupils. This is an attempt to ascertain the effectiveness of the regular classroom teacher in carrying out the procedures.

The demonstration center will serve to demonstrate a rationale of teaching and of learning problem solving behavior in the areas of science, social studies and mathematics.

With respect to procedure, it is anticipated that during the summer of 1963, teachers of intellectually gifted pupils in fourth, fifth, and sixth grades in the Lompoc School District, Santa Barbara County, along with a field consultant and other advisory consultants would work together to develop curricula in science, social studies and mathematics. In addition to developing the teaching materials the rationale of teaching, of learning and of evaluating problem solving behavior would be communicated to the teachers by relating it to the emerging curricula and the psychology of learning.

Beginning in the fall of 1963, the teachers will teach the curricula as planned the previous summer.

After the first year, the program will be evaluated and revised. Student teachers from the University of California, Santa Barbara, would be placed with the teachers trained in the special program the next two years.

It is expected that the benefits from this program will be three-dimensional. It is expected that:

1. Pupils in these special classes will have learned how to (1) carry on the processes of inquiry, and (2) apply knowledges and skills to problems not previously encountered.

2. Teachers in these special classes will have become more (1) creative, (2) adept in asking pertinent questions, and (3) insightful in directing pupils to discover for themselves.

3. Student teachers will have had an opportunity to study intellectually gifted pupils to learn procedures for providing for them, and techniques for evaluating their progress.

Summary of the Demonstration Center Proposal

This project center proposes to demonstrate and interrelate forms of acceleration, special counseling, enrichment, and special-class programs for the mentally gifted. Each demonstration represents an autonomous administrative device and can stand separately as a meaningful program for supplementing the ordinary education of the gifted pupil. However, each of these four types of programs needs to be implemented by some other procedures. For example, a pupil cannot merely be accelerated and forgotten about. Such a pupil will still need special handling which might take the form of special counseling or special enrichment in his regular class program into which he is placed. Therefore, each of the four specific demonstrations may be visited and studied as a separate entity, but can also be considered as an integral part of an overall "master program."

Demonstration districts were chosen with a view toward their accomplishments in the specialized areas they are to demonstrate. It has been shown that the Los Angeles Unified School District has a history of developing excellent materials for the enrichment process. This demonstration district will enable them to organize the different demonstrations into a unified program. Also, it will enable them to develop methods courses for children as well as teachers. Although specific demonstration districts are to be specified, other participating districts will become involved in the four types of demonstrations. For example, it has been shown that at least four widely dispersed school districts plan to become involved in the acceleration demonstration although it will be centered in Pasadena.

Following the first year of operation, the project center will emphasize the examination and analysis of outcomes. We will be concerned with the special kinds of learning and advantages inherent in each of the four types of demonstrations that are operating. Also, there will be a description of differential, attitudinal and personality changes that occur as a result of exposure to, say, acceleration versus enrichment. It may be that certain formulae will emerge with which we can advise the placement of a particular student into a specific program configuration. It may be that a given pupil requires a unique combination of program opportunities rather than one specific placement.

This project center proposal assumes that no single program and no homogenous set of methods, procedures and principles is adequate to meet the needs of any group of gifted pupils. It is assumed that a "total program" for the gifted must include sufficient possibilities for variation and enough complexity to assure that any given pupil may be offered sufficient choices to meet his own unique set of goals. An attempt will be made to develop descriptions of the ways in which pupils may be "cross-programmed." It is to be hoped that this will establish the precedent for a new trend of program development which we might call "program patterns" rather than single tracked programs.

The demonstrations should be significant factors in improving the quality of existing programs and in inaugurating programs which meet the differentiated learning needs of the high-achieving gifted child, the low-achieving gifted child, the gifted child with highly unique interests and talents, and the child with special problems.

Personnel

Co-directors:

1. Dr. Paul D. Plowman, Director for Secondary Education
2. Dr. Joseph P. Rice, Director for Elementary Education

Both co-directors are consultants in the education of the mentally gifted, State of California. In this capacity they have talked to numerous organizations, met with local district and county personnel, and prepared materials to foster program development. Dr. Plowman is attached to the Bureau of Secondary Education and would direct aspects of the demonstration center relating to secondary education. Dr. Rice is attached to the Bureau of Elementary Education and would direct the aspects of the demonstration center relating to elementary education. Both men share the same office and work closely together in program development.

Criteria for Project Consultants

The following general criteria are subject to revision in terms of California credential and/or civil service examination requirements:

1. Possession of a valid administration or supervision or general pupil-personnel services credential or life diploma or credential of equivalent authorization issued under authority of the California State Board of Education.

2. Either one or a combination of the following:

   One year of experience as an administrator or supervisor of a special program for gifted pupils; or

   One year of administrative, supervisory, or pupil-personnel work experience supplemented by two years of teaching experience in a special program for gifted pupils; or

   Three years of experience working with organized programs of special education as a school psychologist or guidance consultant. This experience must have included substantial work with gifted pupils.

3. Proven ability to write concise descriptive reports.

4. Ability to meet with large groups of professional people and design group activities and instruction.

5. Knowledge and abilities:

   Thorough knowledge of: principles, practices, and trends in education; educational methods and procedures applicable to mentally gifted pupils; mental and educational tests and measurements; methods and procedures for the identification of gifted pupils.

   General knowledge of: provisions of statutory and administrative regulations controlling education, especially those relating to gifted pupils; state and local programs for the education of gifted pupils.

   Ability to speak and write effectively and to take effective action.

6. Special personal characteristics: demonstrated capacity for leadership in the field; emotional stability; willingness to travel throughout the state.

Facilities

The California State Department of Education has established consultant and supervisory service in the education of mentally gifted minors. Two fulltime consultants have already worked with many of the 188 school districts with educational and counseling programs for the gifted. Ample equipment is available for production of needed in-service education and teaching materials.

It is anticipated that special assistance will be given by personnel from the following bureaus:

Bureau of Audio-Visual and School Library Education; Bureau of Elementary Education; Bureau of National Defense Education Act Administration; Bureau of Pupil Personnel Services; and Bureau of Secondary Education.

It should be noted that 194 persons have been reported as having fulltime or part-time responsibility for directing and coordinating gifted child programs in approximately 190 school districts in California during the 1962-63 fiscal year. This means that additional resource persons will be available on an advisory committee and perhaps several planning committees for the demonstration project. This also means that, if needed, facilities and other resources of many of these districts will be available to the project.

Los Angeles City elementary and Los Angeles City secondary schools have had the experience of participating in the California State Three-Year Study on Educational Programs for Gifted Children. This system, Pasadena, and San Juan have all had considerable experience in developmental work which should enhance significantly the likelihood of their having outstanding demonstrations. The average per pupil cost of each of the Los Angeles programs during the three-year study was approximately $125.

In each of the districts selected there exists high administrative and community support for special provisions for gifted children.

In mind during the tentative selection of districts was the proximity and probable availability of resource personnel from the various campuses of the University of California, from state colleges, and from Stanford University.

Duration

This demonstration project has been planned for three years, eight and one-half months. It would begin April 15, 1963, and end December 31, 1966. Total amount of time required: 3 years, 8½ months.

Other Information

It is important to note that the participating demonstration school districts will be supplying, staffing and providing for the entire educational program including teachers, tutors, plant space, supplies, etc., out of their own budgets. The State of California provides $40 per participating mentally gifted minor per year in excess-cost reimbursement. Evidence from the Progress Report to the State Board of Education--Programs for Mentally Gifted Minors in California Schools, 1961-62 School Year showed that school districts expended a minimum of $83 per pupil in excess costs. Some programs cost in excess of $250 per pupil. Therefore, at the very least, the participating demonstration school districts will have 1,200 participating pupils and will spend $96,000.00 in excess costs per year to provide the programs described in this application.

The California State Department of Education will provide expert consultant help, when needed, to supplement the project consultants and to aid the project consultants in their development of programs and materials. Also, more than 40,000 mentally gifted minors are participating in programs for the gifted throughout California. The state and local districts provided more than $3,000,000.00 last fiscal year to support their programs. It is anticipated that more than $6,000,000.00 will be expended for mentally gifted programs in California this fiscal year.

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APPENDIX VIII

OE 6000 (0-65)

DEPARTMENT OF HEALTH, EDUCATION, AND WELFARE
OFFICE OF EDUCATION
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ERIC DOCUMENT RESUME

DATE OF RESUME

1. ACCESSION NO.

2. ERIC SATELLITE CODE

3. CLEARING HOUSE CONTROL NO.

4. SOURCE
California State Department of Education
721 Capitol Mall
Sacramento, California 95814

5. TITLE "Demonstration of Differential Programming In Enrichment, Acceleration, Counseling, and Special Classes for Gifted Pupils in Grades 1-9"
Project #D 072 - Final Report

6. AUTHOR(S) Plowman, Paul D. and Joseph P. Rice

7. DATE March 31, 1967

8. PAGINATION 250 p.

9. REFERENCES 62 ref.

10. REPORT/SERIES NO.

11. CONTRACT NO. OE-10-109

12. PUBLICATION TITLE

13. EDITOR(S)

14. PUBLISHER California State Department of Education

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15. ABSTRACT *(250 words max.)*

California Project Talent was a three and one-half year project which demonstrated four types of programs for gifted children and youth. The enrichment demonstration: (1) analyzed the needs for inservice training of teachers and developed appropriate workshops, and (2) invented, field tested, and disseminated special pupil units in: (a) scientific discovery, methodology, and investigation through a study of graphic representation of statistical information using the Bloom "Taxonomy"; (b) creative expression through a study of the literary element of characterization using Guilford's "Structure of Intellect Model"; and (c) critical appreciation through a study of the fundamental forms of music using Bruner's Process of Education. The acceleration demonstration involved individual placement procedures and accelerated pupils from grade two to grade four by using a special summer session and by employing extensive case studies, counseling, and tutoring. The counseling-instructional demonstration showed interrelated goals, processes, and contents of English, social science, guidance, and small-group counseling designed to improve communication skills, encourage development of values and philosophy of life, and promote more effective learning in social sciences and in English in grades 7-9. The special class demonstration showed the unique value of the all-day, full-week special class setting in improving (1) problem solving, (2) the ability to apply facts and principles, and (3) insight into the nature of learning. Overall: (1) Four new programs were invented, adopted, demonstrated, and disseminated; (2) related consultant, teacher, and counselor roles were described; (3) products produced included a film series, filmstrip, and program guidelines; and (4) gifted child programs were promoted, enriched, and expanded.

16. RETRIEVAL TERMS *(Continue on reverse)*

Gifted Child
  Enrichment
  Acceleration
  Counseling
  Guidance
  Group Counseling
  Special Classes

Case Study
Identification
Placement
Demonstration Programs
Curriculum Development
Inservice Education
Teacher Workshops
Dissemination
Field Testing

17. IDENTIFIERS

California Project Talent

Figure 3. ERIC Document Resume

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Field 5. Title: Enter full document title. If document comprises only a portion of the total publication or release, refer to field #12. Include subtitles if they add significantly to information in the title proper.

Enter volume numbers or part numbers, where applicable, as an added entry following the title.

If the document has been identified with a project number, enter the project number as an added entry following the volume or part numbers.

Include the type of report (whether proposal, in-progress, final, follow-up) as an added entry following the project number, where applicable. Following the type of report, enter the inclusive dates covered by the report, by month and year. (Example: 1/63 - 7/65.)

Field 6. Author(s): Enter personal author(s) (corporate author is entered in field #1), last name first. (Example: Doe, John.) If two authors are given, enter both. In the case of three or more authors, list only the principal author followed by "and others," or, if no principal author has been designated, the first author given followed by "and others." (Example: Doe, John and others.)

Field 7. Date: Enter date of release of document by month and year. (Example: 12/65.)

Field 8. Pagination: Enter total number of pages of document, including illustrations, appendices, etc. (Example: 115 p.)

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Field 10. Report/Series No.: Enter any unique number assigned to the document by the publisher or corporate source. (Example: OE-53015; LX-135.) Do not enter project numbers; these are added entries field #5.

Also enter journal citations by name of journal, volume number, and pagination. (Example: NAEB Journal, v. II, pp. 52-73.) Do not include date; date is entered in field #7.

Field 11. Contract No.: If document has been supported by the U.S. Office of Education, enter the OE contract number.

Field 12. Publication Title: If document abstracted comprises only a portion of the total publication or release, enter complete title of publication. (Examples: Four Case Studies of Programmed Instruction; The Automation of School Information Systems.) For journal titles, spell out any abbreviations. (Example: National Association of Educational Broadcasters Journal.)

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16. RETRIEVAL TERMS *(Continued)*

	Research Taxonomy of objectives Structure of human intellect Intellectual skills Creativity		Roles Teacher Counselor Consultant

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